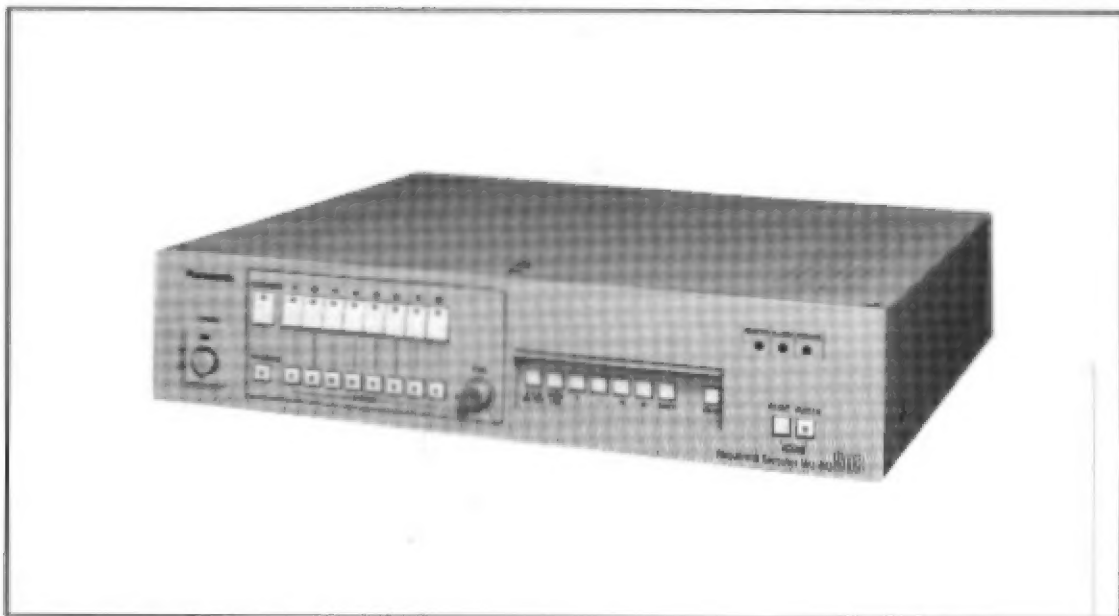


# Operating Instructions

## Sequential Switcher WJ-SQ508



# Panasonic.

Before attempting to connect or operate this product, please read these instructions completely.

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The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

For U.S.A.  
**Warning:**  
 This equipment generates and uses radio frequency energy and if not installed and used properly, i.e., in strict accordance with the instruction manual, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

For CANADA  
 This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

The serial number of this product may be found on the bottom of the unit.  
 You should note the serial number of this unit in the space provided and retain this book as a permanent record of your purchase to aid identification in the event of theft.

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

**WARNING:**  
 TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

## PREFACE

Panasonic introduces a totally new programmable Sequential Switcher, WJ-SQ508, which can be used in a Panasonic system 300 or in a stand alone system.

Using multiple (up to 8) units in a master/slave configuration, the WJ-SQ508 8-position Sequential Switcher will provide switching of up to 64 cameras. It also provides remote control capability, when used with the optional WV-CU300 System Controller. The WJ-SQ508 features two switching modes. In Mode 1, conventional sequential camera switching is performed, while in Mode 2, each individual camera's dwell time can be programmed, between 0.5 and 30 seconds, using on-screen programming.

The WJ-SQ508 also includes an adjustable fast scanning feature that can switch between 66.8 msec and 400.8 msec per camera to a video recorder during an alarm condition. This enables recording of pictures at a rate of nearly 13 cameras a second during an alarm. The WJ-SQ508 also features a conventional alarm mode, in which sequential switching is stopped, and an individual camera is linked to the recorder and/or monitor. With on-screen programming, a built-in alphanumeric titler allows easy superimposition of a name or location for each camera, to simplify camera site programming. The versatile WJ-SQ508 can be the foundation of any growing surveillance system.

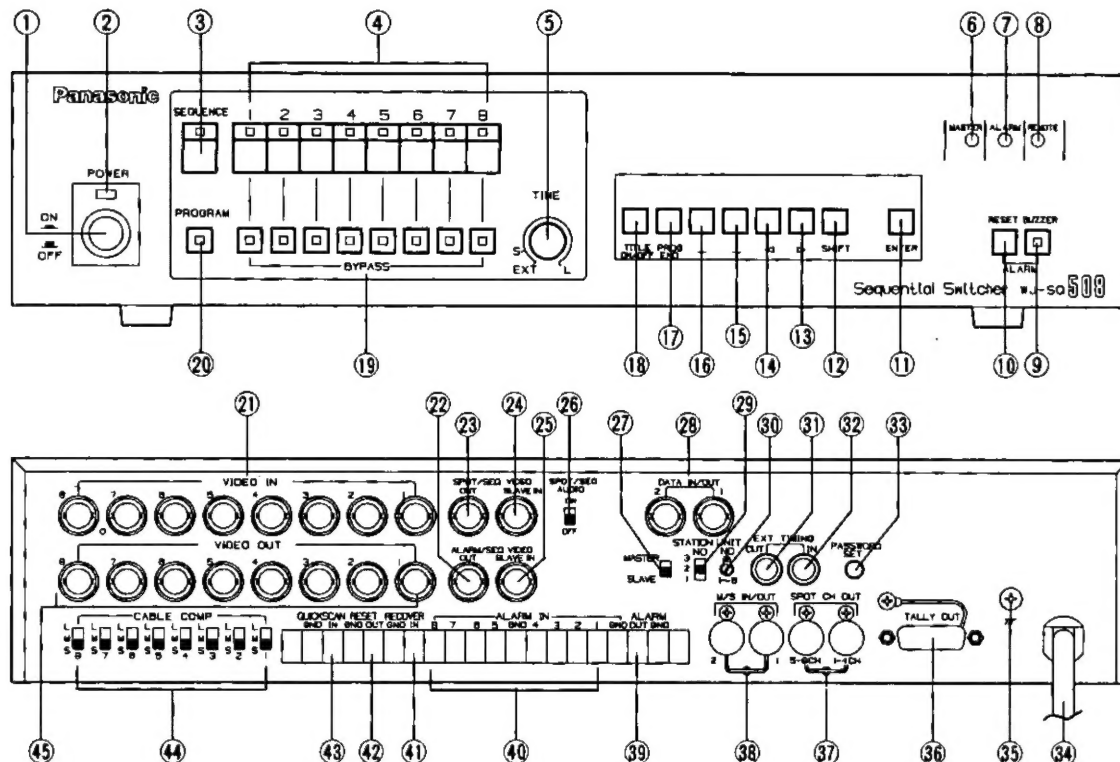
## FEATURES

- Provides two separate sequence dwell time modes:
  - Program Mode: Dwell time for each channel is individually programmable
  - Normal Mode: Dwell time for all channels is the same
- Programmable of the switching order of the connected cameras.
- Password entry and on-screen menu for programming and setup.
- Twelve (12) character alphanumeric display for each video input
- Master/slave configuration with 8 units enables expansion for systems use with up to 64 camera locations
- Two monitor output modes: Sequential/Alarm and Sequential/Spot
- Two alarm activation modes:
  - Mode 1: Quick Scan
    - Alarm activated internal switching, adjustable between 66.8 msec, and 400.8 msec, and EXT.
  - Mode 2: Spot Alarm
    - Conventional alarm activation
- All functions of the WJ-SQ508, except for programming, can be remotely controlled by the System Controller WV-CU300

## PRECAUTIONS

- Do not attempt to disassemble the instrument. In order to prevent electric shock, do not remove screws or covers. There are no user-serviceable parts inside. Do refer all servicing to qualified service personnel.
- Do not abuse the instrument. Avoid striking, shaking, etc. It could be damaged by improper handling or storage. Do handle the instrument with care.
- Do not use strong or abrasive detergents when cleaning the instrument body. Do use a dry cloth to clean the instrument when dirty. In case the dirt is hard to remove, use mild detergent and wipe gently.
- Do not expose the instrument to water or moisture, and do not operate in wet area. Do take immediate action if ever the instrument does become wet. Turn the power off and refer servicing to qualified service personnel. Moisture can damage the instrument and also create the danger of electric shock.
- All necessary procedures with regard to the installation of this product should be made by qualified service personnel or system installers.
- Do not use the instrument in an extreme environment where high temperature or high humidity exist. Use the instrument under conditions where temperatures are within 14°F-122°F (-10°C - +50°C), and humidity is below 95%.

# MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS



## 1. Power ON/OFF Switch (POWER ON/OFF)

When this switch is depressed, the unit turns on and Power Indicator (2) lights up. Because of the back up memory this unit has, the previous working conditions will be recalled when the power of this unit is turned on.

## 2. Power Indicator (POWER)

## 3. Sequence Switch (SEQUENCE)

This is a push-push type switch with LED indicator. When this switch is pressed, sequential switching starts, according to the dwell time set by the Dwell Time control (5). The LED indicators on the Spot Switches (4) turn on and off to show which input is being supplied to both the Spot/Sequence Video Output Connector (23) and the Alarm/Sequence Video Output Connector (22).

## Note:

1. The above switching is called a normal sequential switching and the Program Switch (20) should be off during this mode.
2. If the Program Switch (20) is on, programmed switching is being performed.
3. The inputs where the LEDs of the Bypass Switches (19) are off will be skipped. Also the input will be skipped when the AUTO SKIP is ON. (See page 10 for AUTO SKIP SETTING)
4. The sequence mode will not be released unless one of the Spot Switches (4) is selected.

## 4. Spot Switches (1/2 - 8)

These switches are push-push type switches with LED indicators.

When the one of these switches is pressed, the normal/programmed sequence mode will be released, and the selected input will be supplied to the Spot/Sequence Video Output connector (23).

#### 5. Dwell Time Control (TIME)

This control is used for setting up the dwell time of cameras under normal sequence mode.

The maximum dwell time is approximately 30 sec at L position and the minimum dwell time is approximately 0.5 sec at S position.

When this control is set to EXT position, the dwell time is controlled by the external switching pulse which is fed to the External Timing Connector (32).

##### Note:

1. No sound can be heard when the dwell time is less than 1 second.
2. Time Lapse VTR can be used for the external switching pulse.

#### 6. Master Indicator (MASTER)

When some of the WJ-SQ508 are used in a master-slave operation, the Master/ Slave Switch (27) should be in the MASTER position if the unit is being designated as a master unit.

The Master Indicator lights up at this moment.

#### 7. Alarm Indicator (ALARM)

When the Sequential Switcher WJ-SQ508 or the Receiver WV-RC100/WV-RC150 is in the alarm mode, this indicator blinks.

#### 8. Remote Indicator (REMOTE)

This Indicator is for feature use in a remote control system. It is of no use in the current system.

#### 9. Alarm Buzzer Switch (ALARM BUZZER)

This is a push-push type switch with LED indicator and used to turn on/off the sound of the alarm buzzer.

To know the alarm by the buzzer sound, keep this LED on.

To stop the sound, press this switch and turn off the LED.

#### 10. Alarm Reset Switch (ALARM RESET)

When the alarm mode is to be cancelled manually, press this switch. The Alarm Indicator (7) goes off at the same time. However, the alarm indicator LED of the WV-CU300 changes from a blinking state to the continuously on state.

##### Note:

When the alarm mode is cancelled by the WV-CU300, the Alarm Indicator (7) of WJ-SQ508 changes from a blinking state to the continuously on state.

#### 11. Enter Switch (ENTER)

This switch is used to memorize the programmed information as well as the characters.

When this switch is pressed, a new program menu is displayed on the monitor screen.

Refer to the operating procedure on page 8 for details.

#### 12. Shift Switch (SHIFT)

When programming the contents of each camera, this switch is used to move the position of blinking cursor to the next channel on the monitor screen. Refer to the operating procedure on page 8 for details.

#### 13. Right Shift Switch (►)

When programming the contents of each camera, this switch is used to move the position of blinking cursor horizontally to the right on the monitor screen.

Refer to the operating procedure on page 8 for details.

#### 14. Left Shift Switch (◄)

When programming the contents of each camera, this switch is used to move the position of blinking cursor horizontally to the left on the monitor screen.

Refer to the operating procedure on page 8 for details.

#### 15. Backwards Character Selection Switch (—)

Use this switch to search for a character or number from the characters table. When this switch is pressed, the character or number changes in the reverse order. The characters table is shown below.

Refer to the operating procedure on page 9 for details.

A	B	C	D	E	F	G	H	I	J	K	L	M	N
O	P	Q	R	S	T	U	V	W	X	Y	Z		
°	0	1	2	3	4	5	6	7	8	9			
:	-	/	?	*	"	#	&	'	,	.	;	.	

#### 16. Forwards Character Selection Switch (+)

Use this switch to search for a character or number from the characters table. When this switch is pressed, the character or number changes in the forward order. The same characters table shown above for item-15 is used.

Refer to the operating procedure on page 9 for details.

#### 17. Program/End Switch (PROG END)

This switch is pressed to enter the program mode or conclude the program mode.

Refer to the operating procedure on page 9 for details.

#### 18. Title ON/OFF Switch (TITLE ON/OFF)

When this switch is pressed, the camera title which has been previously set will be superimposed on the picture at the Spot/Sequence Video Output Connector (23). To delete the camera title, press this switch again.

#### 19. Bypass Switches (BYPASS)

These switches are push - push type switches with LED indicators. The camera(s) where the LED(s) of the bypass switch(es) is(are) off will be skipped during a sequential switching operation.

To cancel a bypass mode, press the switch and turn the LED on.

**20. Program Switch (PROGRAM)**

This switch is a push - push type switch with LED indicator. While the LED of this switch is on, the programmed sequential switching which has been previously set will be performed. To cancel the programmed sequential mode, press this switch and turn the LED off.

**21. Video Input Connectors (VIDEO IN 1/2- -/8)**

These connector accept either FM (audio) mixed video signals or standard video signals.

**22. Alarm/ Sequence Video Output Connector (ALARM/SEQ VIDEO OUT)**

The standard composite video signal is provided at this connector. When the WJ-SQ508 is in the sequential mode, either the normal sequence or programmed sequence, the sequential video signal is provided at this connector. When the WJ-SQ508 is in the alarm mode, the alarmed video signal is provided at this connector.

**Note:**

A Time Lapse VTR is recommended for use with this connector.

**23. Spot/Sequence Video Output Connector (SPOT/SEQ VIDEO OUT)**

The FM (audio) mixed video signal is provided at this connector. When the WJ-SQ508 is in the sequential mode, either the normal sequence or the programmed sequence, the FM (audio) mixed sequential video signal is provided at this connector. When the WJ-SQ508 is in the spot mode, the FM (audio) mixed spot video signal is provided at this connector.

**Note:**

1. An audio beat noise will be seen on the video monitor when the FM (audio) mixed video signal is supplied from this connector. Turn the Spot/Sequence Audio Switch (26) to the OFF position to eliminate the audio beat noise.
2. The video input of WV-CU300 accepts the FM (audio) mixed video signal from the Spot/Sequence Video Output Connector (23) of the WJ-SQ508 without audio beat noise.

**24. Spot/Sequence Video Slave Input Connector (SPOT/SEQ VIDEO SLAVE IN)**

This connector accepts the FM (audio) mixed video signal from the Spot/Sequence Video Output Connector (23) of another WJ-SQ508 in a master-slave operation.

**25. Alarm/Sequence Video Slave Input Connector (ALARM/SEQ VIDEO SLAVE IN)**

This connector accepts the video signal from the Alarm/Sequence Video Output Connector (22) of another WJ-SQ508 in a master- slave operation

**26. Spot/Sequence Audio Switch (SPOT/SEQ AUDIO ON/OFF)**

The audio signal on the spot/sequence video output signal will be cut off when this switch is in OFF position. If the audio sound is not necessary during a sequential operation with a WV-CU300, turn this switch off. When this switch is in ON position, the sequential switching audio signal as well as the video signal will be obtained at the WV-CU300.

**27. Master/Slave Switch (MASTER/SLAVE)**

This switch should be properly set when using the master- slave operation of the WJ-SQ508. Turn this switch to the MASTER position when this WJ-SQ508 is used as the master unit and turn this switch to the SLAVE position on all the others WJ-SQ508 that are used as slave units.

**Note:**

Turn this switch to the Master position when this unit is used alone.

**28. Data Input /Output Connector (DATA IN/OUT 1/2)**

The control data transmitted from other system components (WV-CU300, WJ-MP404 or WJ-SQ508) is supplied to one of these connectors. If the control data has to be sent to other system components, use the other connector for it.

**Note:**

- (1) This connector is terminated by 75 $\Omega$  automatically when the BNC cable is connected.
- (2) The data line should originate from WJ-MP404. (Data Clock Switch to SND position) and should loop through all necessary units. For additional details see the WV-CU300 or WJ-MP404 operating instructions.

**29. Station Number Selection Switch (STATION NO. 1/2/3)**

This switch is used to identify the station number of each WJ-SQ508 in the system which branches out from a WV-CU300.

**Note:**

Refer to the setting up of the station number on page 12.

**30. Unit Number Selection Switch (UNIT NO. 1-8)**

This switch is used to identify the unit number of each WJ-SQ508 in the system which branches out from a WV-CU300.

**Note:**

1. The NO. 0 and NO. 9 on this switch are of no use.
2. Refer to the setting up of the unit number on page 12.

**31. External Timing Output Connector (EXT TIMING OUT)**

The sequential switching interval of WJ-SQ508 can be externally controlled by a Time Lapse VTR. The timing pulse from the External Timing Input Connector (32) is provided to this connector for another WJ-SQ508.

**Note:**

When the Time Lapse VTR is not used with this unit, the timing pulse set by the Dwell Time Control (5) is provided to this connector.

### 32. External Timing Input Connector (EXT TIMING IN)

The sequential switching interval of WJ-SQ508 can be externally controlled by a Time Lapse VTR. Supply the timing pulse from the Time Lapse VTR to this connector.

### 33. Password Setting Switch (PASSWORD SET)

The WJ-SQ508 contains a password function to protect a program from being changed by unauthorized persons. A password of five digits can be set by this switch.

Refer to the setting up of the password on page 8.

### 34. Power cord

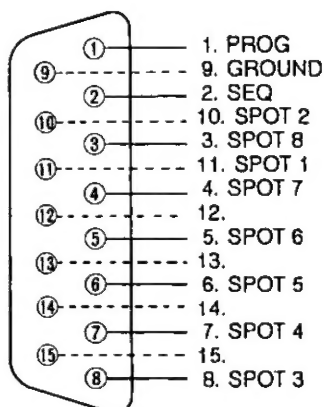
### 35. Grounding Screw

### 36. External Tally Connector (TALLY OUT)

When using an external display in addition to the LEDs of the Sequence Switch (3), the Spot Switches (4) and the Program Switch (20), utilize this connector for the external tally out signals.

The pin configuration is shown below.

An open collector output is provided to each pin. The supply voltage is 16V DC maximum and the current is 100 mA.



#### Note:

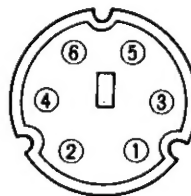
This connector can be used as a external remote control connector. Ask qualified service personnel for the modification of the circuit.

### 37. Spot Channel Output Connectors (SPOT CH OUT 1-4 CH/5-8 CH)

The command signal of the "TALK" function is supplied to the Spot Channel Input Connector (4) of the WJ-DA464 from this connector.

#### Note:

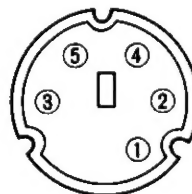
1. The signal from 1-4 CH should be supplied to 1-4 CH of the Spot Channel Input Connector (4) of the first WJ-DA464.  
The signal from 5-8 CH should be supplied to 5-8 CH of the Spot Channel Input Connector (4) of the second WJ-DA464.  
Refer to the operating instructions of the WV-CU300 for "TALK" function.



1. TALK ALL
2. CH SEL 1
3. CH SEL 2
4. CH SEL 3
5. TALK SW 1
6. GROUND

### 38. Master/Slave Connectors (M/S IN/OUT)

When multiple WJ-SQ508 are used in a master-slave operation, connect the 5 pin interface cable (provided) between these connectors of the WJ-SQ508. A master-slave control data signal transmits among the WJ-SQ508.



1. SCKO
2. SBO
3. CNT I/O
4. TIM I/O
5. GND

### 39. Alarm Output Terminal (ALARM OUT)

When the Alarm Signal Input Connector (40) or the Quick Scan Input Terminal (43) is activated, the alarm output signal will be supplied from this connector. This output consists of an open collector circuit. The supply voltage is 16V DC maximum and the current is 100 mA.

### 40. Alarm Signal Input s Terminals (ALARM IN)

A alarm sensor unit which has an open collector circuit can be used with this input connector.

When this terminal is activated (grounded), the alarm buzzer sounds and the Alarm Indicator (7) blinks. At the same time, the signal at the Alarm/Sequence Video Output Connector (22) outputs the video signal from the alarmed camera site.

### 41. Recover Input Terminal (RECOVER IN)

The WJ-SQ508 returns to the normal operation mode from the alarm mode when the recover signal from a Time Lapse VTR is supplied to this connector.

#### Note:

When the alarm mode is canceled by the WV-CU300, the Alarm Indicator (7) of the WJ-SQ508 changes from a blinking state to the continuously on state.

### 42. Reset Output Terminal (RESET OUT)

When a Time Lapse VTR receives the reset signal supplied from this connector, the Time Lapse VTR returns to the normal operation mode from the alarm mode.



#### 43. Quick Scan Input Terminal (QUICK SCAN IN)

An alarm sensor unit which has an open collector circuit can be used for this input connector.

When this connector is activated (grounded), the alarm buzzer sounds and the Alarm Indicator (7) blinks. At the same time, all cameras connected to the WJ-SQ508 will be scanned quickly in sequence. The scanning picture is provided to the Alarm/Sequence Video Output Connector (22).

**Note:**

The switching interval can be preadjusted with the programming function. Refer to the programming procedure on page 10.

#### 44. Cable-loss Compensation Switches

##### (CABLE COMP, 1/2-/8, L/M/S)

These switches are used to set the most suitable position of the cable-loss compensator for each camera input signal. The video output signals at the Alarm/Sequence Video Output Connector (22) and the Spot/Sequence Video Output Connector (23) are compensated. The suitable switch position and its approximate cable length are as follows:

S: up to 1.300ft (394m)

M: 1.300ft (394m) to 2.300ft (697m)

L: 2.300ft (697m) to 3.000ft (909m)

(with RG-59U, BELDEN 9259 or equivalent)

**Note:**

When this switch is set improperly, the camera may not be controlled properly.

#### 45. Video Output Connectors (VIDEO OUT)

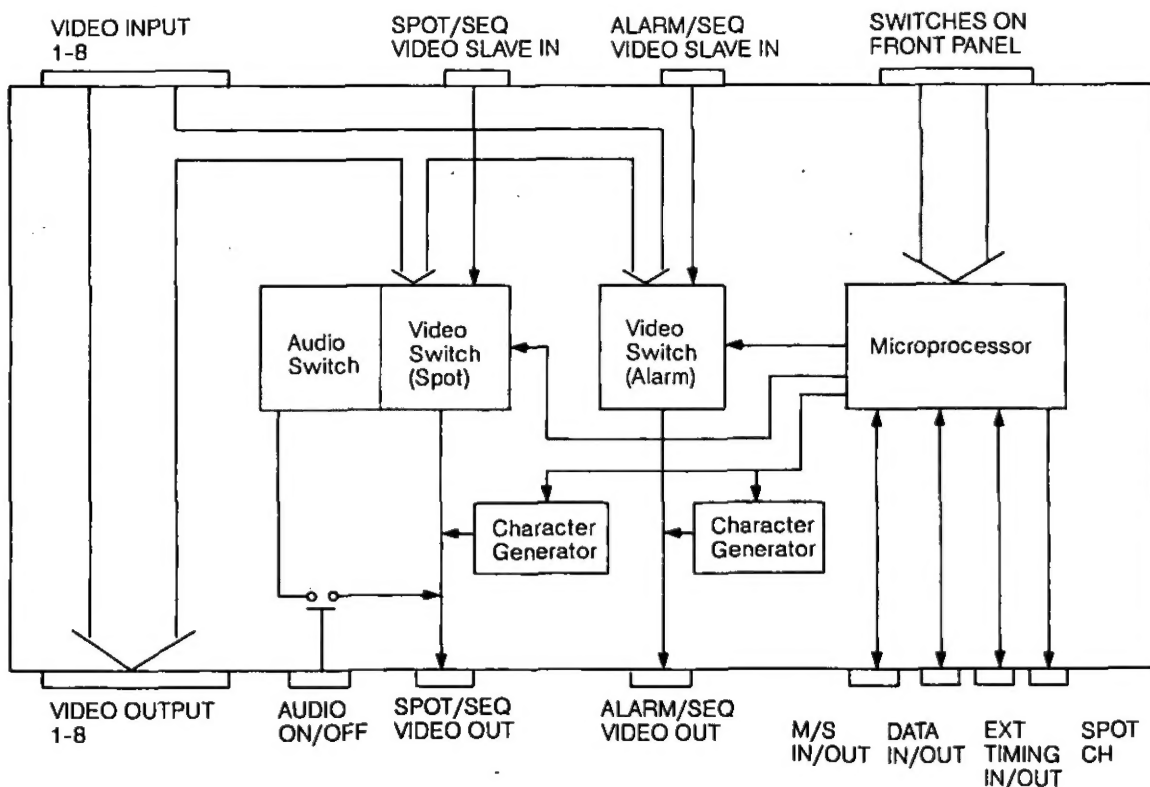
The video input signals connected to the Video Input Connectors (21) are looped through to these connectors.

## FUNCTIONAL BLOCK DIAGRAM

The following diagram shows a simplified signal flow of the WJ-SQ508.

- When the WJ-SQ508 is in the sequence mode, the output signals from ALARM/SEQ VIDEO OUT and SPOT/SEQ VIDEO OUT are sequential video signals.
- When the ALARM IN/QUICK SCAN IN is activated, the alarmed video signal is provided to the ALARM /SEQ VIDEO OUT. However, the sequential video signal is still provided to the SPOT/SEQ video out.

- When the spot switch is selected, the corresponding video signal is provided to the SPOT/SEQ VIDEO OUT.
- The audio signal will be eliminated when the SPOT/SEQ AUDIO switch is turned to the OFF position.
- When the PROGRAM switch is pressed, the programmed command signal is supplied to the matrix circuit to provide the programmed sequential video signal to the ALARM/SEQ and SPOT/SEQ video output.



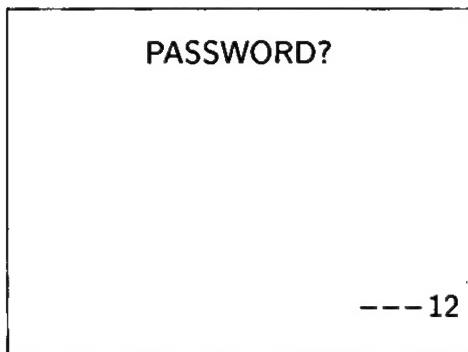


## OPERATION OF THE PASSWORD

- The password is required to enter the programming of the functions. Also the password protects the program from being changed by unauthorized person.

### 1. To confirm or re-confirm the password:

- Press the Password Setting Switch (33).
- The password appears on the monitor TV for 1 minute.



Password ↓

- Press the Enter Switch (11) after the confirmation has been done. The password blinks for about 3 seconds and then disappears.

### 2. To set up or change the password:

- Press the password Setting Switch (33).
- The password appears on the monitor TV for 1 minute.
- Press the Spot Switches (4) to set up the password. Up to 5 digits can be used for a password.

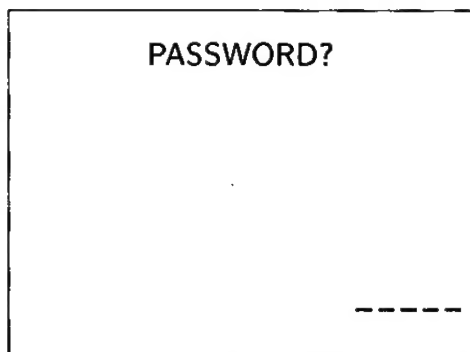
from ; - - - - 1

to ; 8 8 8 8 8

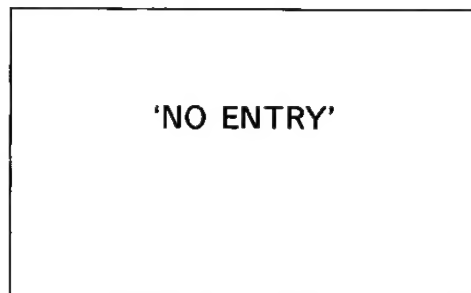
- Press the Enter Switch (11) after the password set up has been completed. The password blinks for about 3 seconds and then disappears.

### 3. To enter the programming mode:

- Press the Program/End Switch (17).
- 5 dots appear and blink on the monitor TV for 1 minute.



- Enter the password by using the Spot Switches (4).
- Press the Enter Switch (11).
- If the password is wrong, the letters "NO ENTRY" blink for about 3 sec and then returns to previous conditions.



- If the password is correct, the first menu of the program appears.

CH	TITLE	
1	MAIN LOBBY ..	1
2	PARKING ....	2
3	NORTH BLD ..	
4	SOUTH BLD ..	
5	EAST .....	1
6	EAST .....	2
7	. ....	
8	. ....	

## PROGRAMING OF THE MENU

- Four menus are available after entering the programming mode. Set up each menu with following procedure.

### 1. Setting up the titles

- The following menu will be displayed on the monitor.

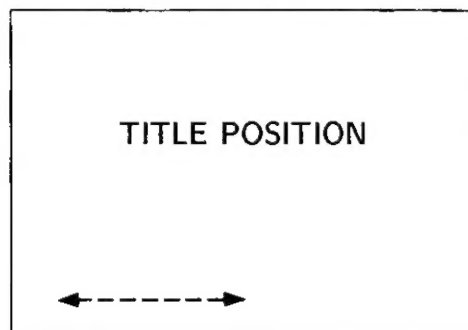
CH	TITLE
1	MAIN LOBBY .. 1
2	PARKING .... 2
3	NORTH BLD ..
4	SOUTH BLD ..
5	EAST ..... 1
6	EAST ..... 2
7	. ....
8	. ....

8 titles      12 characters

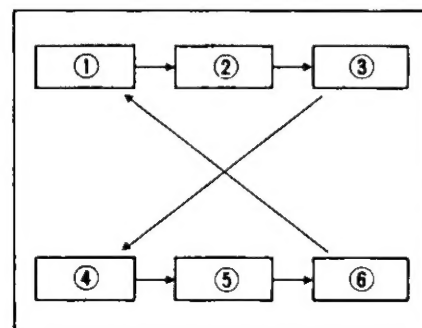
- There are 8 titles that can be set in this menu.
- Each title is composed of 12 characters.
- The position of the character to be selected is blinking.
- Select the appropriate character using the Backwards Character Selection Switch (15) and the Forward Character Selection Switch (16).
- After the selection has been done, change the blinking position using the Right Shift Switch (13) and the Left Shift Switch (14).
- Repeat above procedures until the setting up of the title for a certain channel is completed.
- To change the channel, press the Shift Switch (12). The first character of the next channel starts blinking. The picture on the monitor changes to the next channel at this time.
- Repeat above procedures to complete the setting up of the titles for all channels.
- When finished with the setting up of the titles, press the Enter Switch (11) to memorize the new menu and to enter the menu for setting up the title position.

### 2. Setting up the title position

- The following menu is displayed on the monitor.



- The position of the title can be changed in 6 ways by pressing the Backwards Character Selection Switch (15) and the Forward Character Selection Switch (16).



- The position of the title can not be set for each camera individually. All cameras will have the same title position.
- When finished with the setting up the title position, press the Enter Switch (11) to memorize the position and to enter the menu for setting up the alarm/sequence mode.

### 3. Setting up the menu

- The following picture will be displayed on the monitor.
- There are four items to be set in this menu.

*	ALM/SEQ TITLE	OFF
*	AUTO SKIP	ON
*	ALM-TIME	5 (MIN)
*	QS-TIME	400.8 (mS)

#### Note:

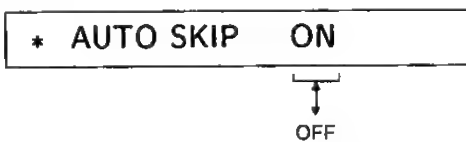
When the system is changed, the content of the menu should be ensured.

(1) ALARM/SEQ TITLE



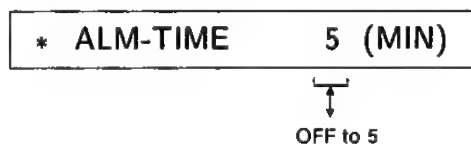
- When this item is ON, the camera title will be superimposed on the picture at the Alarm/Sequence Video Output Connector (22). When this is in the OFF mode, no camera title will be superimposed on the picture.
- Press either the Backwards Character Selection Switch (15) or the Forward Character Selection Switch (16) to select the "ON" or "OFF" character.
- After the selection has been done, press the Shift Switch (12) to move on to the next item.

(2) AUTO SKIP



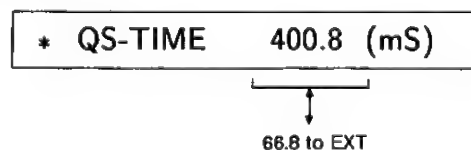
- When this item is "ON", sequential switching is performed only where a camera input exists.
- An input where no camera is connected will be skipped during the sequence. When this item is "OFF", the auto skip function will not be performed. All camera inputs are involved in the sequential switching even if no camera exists at the camera input.
- Press either the Backward Character Selection Switch (15) or the Forward Character Selection Switch (16) to select "ON" or "OFF" character.
- After the selection has been done, press the Shift Switch (12) to move on to the next item.

(3) ALM-TIME



- The alarm time can be selected from OFF to 5 minutes in 1 minute increments.
- Press either the Backward Character Selection Switch (15) or the Forward Character Selection Switch (16) to select the time.
- When "OFF" is selected, a recover signal to the Recover Input Connector (41) is required to return to the normal operation mode.
- After the selection has been done, press the Shift Switch (11) to move to the next item.

(4) QS-TIME



- The quick scanning time in the alarm mode can be selected from 66.8ms, 133.6ms, 200.4ms, 267.2ms, 334.0ms, 400.8ms, or EXT.
- Press either the Backward Character Selection Switch (15) or the Forward Character Selection Switch (16) to select the time.
- When "EXT" is selected, an external timing pulse from a Time Lapse VTR to the External Timing Connector (32) is required.
- After the selection has been done, press the Enter Switch (11) to memorize the new menu and to enter the menu for setting up the sequential mode.

4. Setting up the sequential mode

- The following menu is displayed on the monitor. This menu is for programmed sequential switching when operating the Program Switch (20).
- When this menu is selected, the channel (CH) for order number 1 blinks. Select which channel (camera) will occupy order number 1 by using the Backward Character Selection Switch (15) and the Forward Character Selection Switch (16).
- Press this Right Shift Switch (13). The DWELL blinks. Set the dwell time of the sequential switching by using the Backward Character Selection Switch (15) and the Forward Character Selection Switch (16). The dwell time can be set from 0.5 sec. to 30.0 sec. in 0.5 sec increments.

ORDER CH DWELL BYPASS			
		(S)	
1	1	2	PASS
2	3	2	*
3	5	2.5	*
4	7	3	*
5	2	2	*
6	4	1.5	*
7	6	3.5	*
8	8	3	*

- Press the Right Shift Switch (13). The BYPASS blinks.
- Select "PASS" or "\*" by using the Backward Character Selection Switch (15) or the Forward Character Selection Switch (16). When "PASS" is selected, the camera of this channel will be skipped. When the "\*" is selected, the camera of this channel will be included in the a sequential operation.
- Repeat above procedure for all cameras.
- After the setting up has been done, press the Enter Switch (11) to memorize the new menu and then press the Program/End Switch (17) to conclude the programming of the menu.

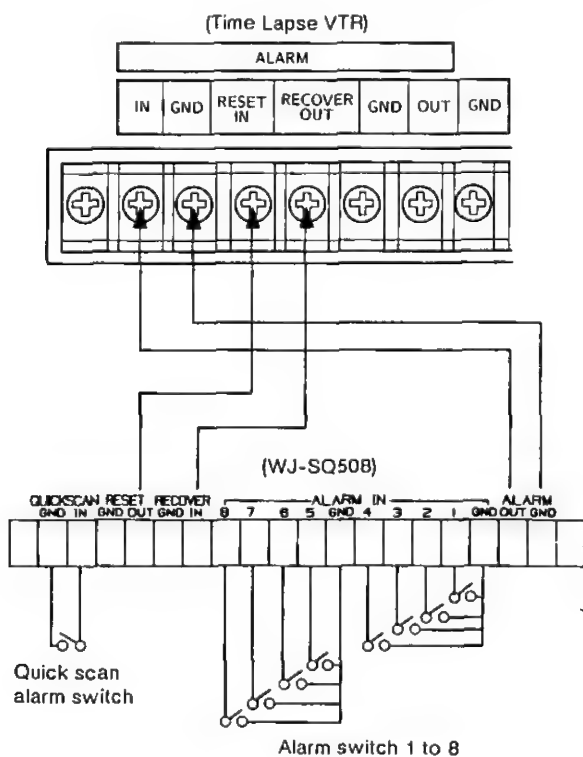
**Note:**

1. The example illustrated above performs sequential switching of the cameras in the following order: 1 → 3 → 5 → 7 → 2 → 4 → 6 → 8 with a corresponding dwell time.
2. If a "CH" number has been set twice, an arrow mark points out the lower "CH" to be corrected.

ORDER	CH	DWELL (S)	BYPASS
1	1	2	PASS
2	3	2	*
3	5	2.5	*
4	7	3	*
5	2	2	*
6	4	1.5	*
7	3 ←	3.5	*
8	8	3	*

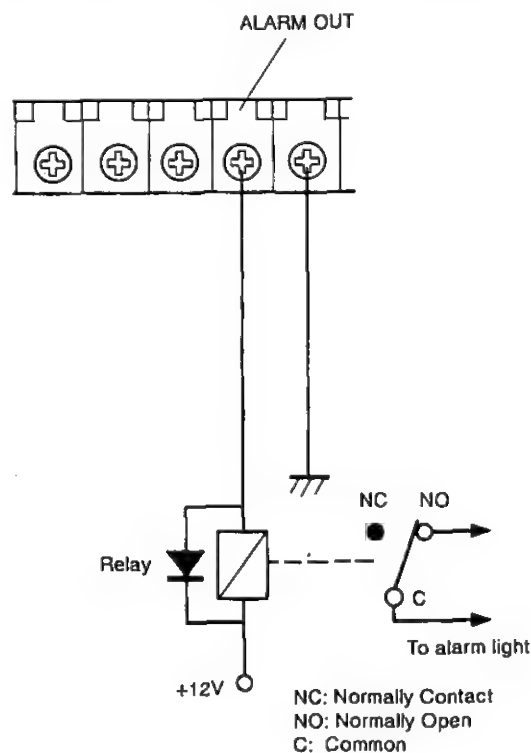
## CONNECTION WITH ALARM UNIT & TIME LAPSE VTR

- Connect the sensor switches and the Time Lapse VTR with the proper cables. The sensor should have an open-collector output or non-voltage contact.



- When the alarm time of the Time Lapse VTR is set shorter than the Sequential Switcher WJ-SQ508, the alarm mode of the Time Lapse VTR will be finished faster than the Sequential Switcher. At this time, the Time Lapse VTR will cease the alarm mode of the Sequential Switcher.

- When the alarm signal is supplied to the WJ-SQ508, the letters of "AL" blink on the video monitor through the Alarm/Sequence Video Output Connector (22) or the Spot/Sequence Video Output Connector (23).
- When the alarm unit has to be connected with the Alarm Output Connector (39), refer to the diagram below. The capacity of the Alarm Output Connector (39) is 16V DC maximum 100mA or less. Use a Relay Box if necessary.



# HOW TO SET UP THE UNIT NUMBERS

## Important

Before the actual installation and wiring of the system components has been made, you are strongly recommended to draw a complete system diagram to set up the Station number, Unit number, position of the CH SELECT, signal flow of the Data Clock and other necessary switches. Keep this diagram and refer it when the more components are installed to expand the system.

The Bay System in Advanced Application-3 will be used as an example to explain the setting up the unit numbers. (See page 25.)

- In this system, sixty-four (64) cameras, five (5) WV-CU300, twenty-four (24) WJ-SQ508 and four (4) WJ-MP404 are used.
  - Cameras No.1 to No.16 are observed by Satellite A, Cameras No.17 to No.24 are observed by Satellite B, Camera No.25 to No.64 are observed by Satellite C. The Master Location & Sub Location observe the all cameras and the Master Location has a primary control right to the master-slave Sequential Switchers.
  - The Unit Number Table on this page shows the full loaded system with 64 cameras. 16 WJ-MP404, 24 WJ-SQ508, and 5 WV-CU300. 8 cameras (No.1 to No.8) are being supplied to 2 WJ-MP404 (No.1 and No.2). These 2 WJ-MP404 are connected with a WJ-SQ508 which has a station number-1 with 8 video cables. These 8 video signals are supplied to another WJ-SQ508 which has a station number-3 by looping-through another WJ-SQ508 which has station number-2. The last 8 cameras (No.57 to No.64) are supplied to 2 WJ-MP404 (No.15 and No.16). These 2 WJ-MP404 are connected with a WJ-SQ508 which has station number-1 with 8 video cables. These 8 video signals are supplied to another WJ-SQ508 which has station number-3 by looping-through another WJ-SQ508 which has station number-2.
- Compare the Unit Number Table with the Advanced Application-3 on page 25.
  - Controller Unit Number  
Assign a different controller unit number for each WV-CU300 by using the Controller Number Selection Switch (43).
  - Station Number  
The station number of WJ-SQ508 is assigned as indicated in the following procedure.
    - The WJ-SQ508 which are connected to the cameras directly or to the WJ-MP404 should have station number "1".
    - The WJ-SQ508 which receive the looped-through video signals from station number 1 should be assigned the station number 2.
    - Set the Station Number Selection Switch (41) to the position 2.
    - The station number "3" should be given to the other WJ-SQ508 as shown in the table.
    - The unit number for the WJ-SQ508 will be given in sequence from No.1 to No.8 in the same station.
  - Set the Station Number Selection Switch (41) and the SEQ Unit Number Selection Switch (42) on the WV-CU300 to the same numbers as set on the master unit WJ-SQ508.

- Two(2) WJ-MP404 can be connected to one WJ-SQ508 with eight video cables. Give the same unit number to the two WJ-MP404 that the WJ-SQ508 connected with.
- The WJ-MP404 accepts only four (4) cameras, therefore, the CH SELECT switch on the one WJ-MP404 should be set to the 1-4CH position and the other WJ-MP404 should be set to the 5-8CH position.

## Remark:

The above example on setting up the unit numbers is based on the maximum system installations. Even though a particular system does not have the maximum system installations, give the unit numbers to the components as if the system did contain the maximum system components. Also skip any unused numbers as shown in the shaded numbers in the Unit Number Table. This idea will be helpful for future expansion of the system.

<Unit Number Table>

CAMERAS		WJ-MP404	WJ-SQ508	WJ-SQ508	WJ-SQ508			
CAMERA 1 →	1	UNIT CH SELECT	STATION UNIT	STATION UNIT	STATION UNIT			
CAMERA 2 →		1 - 1~4CH	1 1	2 1	3 1			
CAMERA 3 →		2	1 - 5~8CH	(M)	(M)	(M)		
CAMERA 4 →								
CAMERA 5 →								
CAMERA 6 →								
CAMERA 7 →								
CAMERA 8 →								
CAMERA 9 →	3	2 - 1~4CH	1 2	2 2	3 2			
CAMERA 10 →		4	2 - 5~8CH	(S)	(S)	(S)		
CAMERA 11 →								
CAMERA 12 →								
CAMERA 13 →								
CAMERA 14 →	5	3 - 1~4CH	1 3	2 3	3 3			
CAMERA 15 →		6	3 - 5~8CH	(M)	(M)	(M)		
CAMERA 16 →								
CAMERA 17 →								
CAMERA 18 →								
CAMERA 19 →		7	4 - 1~4CH	1 4	2 4	3 4		
CAMERA 20 →				8	4 - 5~8CH	(S)	(S)	(S)
CAMERA 21 →								
CAMERA 22 →								
CAMERA 23 →								
CAMERA 24 →	9	5 - 1~4CH	1 5	2 5	3 5			
CAMERA 25 →		10	5 - 5~8CH	(M)	(M)	(M)		
CAMERA 26 →								
CAMERA 27 →								
CAMERA 28 →								
CAMERA 29 →		11	6 - 1~4CH	1 6	2 6	3 6		
CAMERA 30 →				12	6 - 5~8CH	(S)	(S)	(S)
CAMERA 31 →								
CAMERA 32 →								
CAMERA 33 →	13	7 - 1~4CH	1 7			2 7	3 7	
CAMERA 34 →		14	7 - 5~8CH	(M)	(M)	(M)		
CAMERA 35 →								
CAMERA 36 →								
CAMERA 37 →								
CAMERA 38 →		15	8 - 1~4CH	1 8	2 8	3 8		
CAMERA 39 →				16	8 - 5~8CH	(S)	(S)	(S)
CAMERA 40 →								
CAMERA 41 →								
CAMERA 42 →								
CAMERA 43 →	1	8 - 1~4CH	1 8	2 8	3 8			
CAMERA 44 →		2	9 - 5~8CH	(S)	(S)	(S)		
CAMERA 45 →								
CAMERA 46 →								
CAMERA 47 →								
CAMERA 48 →		3	10 - 5~8CH	1 9	2 9	3 9		
CAMERA 49 →				4	10 - 1~4CH	(S)	(S)	(S)
CAMERA 50 →								
CAMERA 51 →								
CAMERA 52 →								
CAMERA 53 →	5	10 - 1~4CH	1 10	2 10	3 10			
CAMERA 54 →		6	10 - 5~8CH	(S)	(S)	(S)		
CAMERA 55 →								
CAMERA 56 →								
CAMERA 57 →								
CAMERA 58 →		7	11 - 5~8CH	1 11	2 11	3 11		
CAMERA 59 →				8	11 - 1~4CH	(S)	(S)	(S)
CAMERA 60 →								
CAMERA 61 →								
CAMERA 62 →								
CAMERA 63 →	9	12 - 5~8CH	1 12	2 12	3 12			
CAMERA 64 →			10	12 - 1~4CH	(S)	(S)	(S)	
		1			2	3		
		WV-CU300 STATION NUMBER						

## SYSTEM ERROR TABLE

- When a system component has its controls set up incorrectly, an error indication will appear automatically on the video monitor of the WV-CU300.

In this case, refer to the table below and reset the controls to their correct positions.

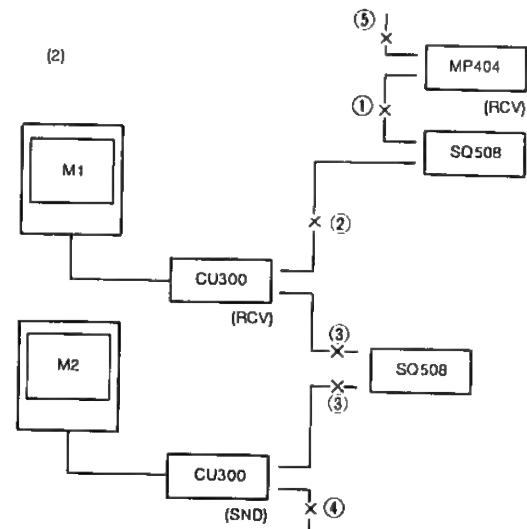
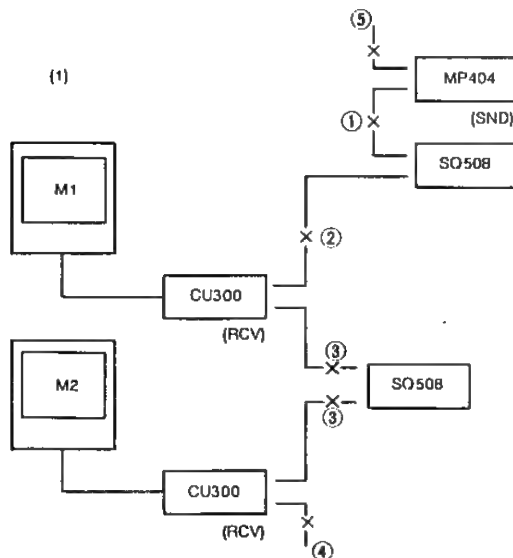
	Cause	Location where error exists and its error indication			Remedy
		WV-CU300	WJ-SQ508	WJ-MP404	
A1	<ul style="list-style-type: none"> <li>Data Clock Switch of all WJ-MP404 &amp; WV-CU300 are set to RCV position</li> <li>Broken data bus line even in RCV position</li> </ul>	CU ERROR: A1			Designate 1 unit as data clock supplier & set switch to "SND".
A2	Data Clock Switches of two or more WJ-MP404& WV-CU300 are set to SND position	CU ERROR: A2		MP ERROR: A2	Set only 1 unit's Data Clock Switch to "SND" position.
B1	SEQ Unit No. is set to 1-0; 1-9; 2-0; 2-9; 3-0 or 3-9.	CU ERROR: B1	The buzzer sounds		Correct Unit Number Switch setting on WJ-SQ508 or WV-CU300.
B2	Controller No. is set to 0, 6, 7, 8 or 9.	CU ERROR: B2			Correct Controller Unit Number Switch setting.
C1	Unit No. of components are duplicated within the same station.	CU ERROR: C1	See the manual of WJ-SQ508.	MP ERROR: C1	Correct Unit Number Switch setting on duplicated component.
D1	Broken data bus line or non-termination.	CU ERROR: D1		MP ERROR: D1	Check data bus cabling for defective connector, cable, etc.

**Note on error A2:**

The last component which has set its Data Clock Switch to the SND position becomes the error location.

**Note 1:**

With a broken data bus line or non-termination, 2 kinds of error indications are available on each monitor as shown below. The difference between these systems is the location of the "SND" unit.



Trouble point	Error indication on M1 monitor	Error indication on M2 monitor
(1)	CU ERROR: A1	CU ERROR: A1
(2)	CU ERROR: A1	CU ERROR: A1
(3)	MP ERROR: D1	CU ERROR: A1
(4)	MP ERROR: D1	MP ERROR: D1
(5)	MP ERROR: D1	MP ERROR: D1

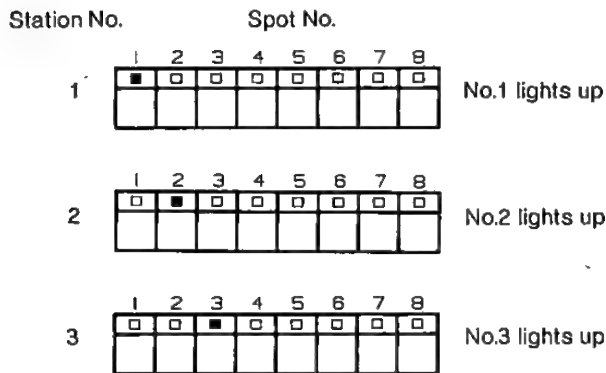
Trouble point	Error indication on M1 monitor	Error indication on M2 monitor
(1)	—	CU ERROR: D1
(2)	—	CU ERROR: D1
(3)	CU ERROR: A1	CU ERROR: D1
(4)	—	CU ERROR: D1
(5)	—	CU ERROR: D1

**Note 2:**

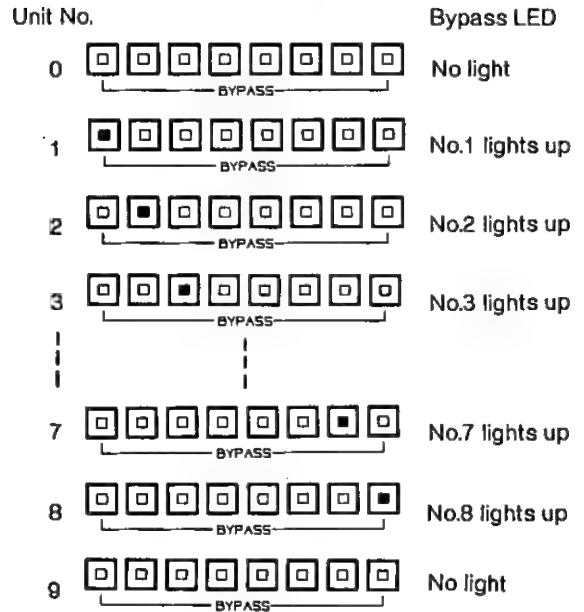
To check for a duplication of the unit number or to check a unit number of WJ-SQ508, perform the following test procedure.

- (1) Press the Enter Switch (11), the Left Shift Switch (14) and the Forward Character Selection Switch (16) simultaneously.
- (2) Turn the power on.
- (3) The LEDs of the Spot Switches (4) and the Bypass Switches (19) show the station number and the unit number of WJ-SQ508.

- a. The Spot LED shows the station number as follows.



- b. The Bypass LED shows the unit number as follows.



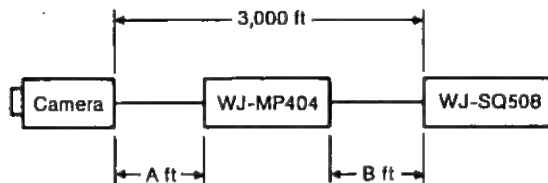
- (4) When the Master Indicator (6) lights up, it shows this WJ-SQ508 is a master unit. When the LED does not light up, it shows this WJ-SQ508 is a slave unit.

## SETTING UP OF THE CABLE-LOSS COMPENSATION SWITCH

The maximum cable length in the system is approximately 3,000ft as explained at item-44 on page 7. See the diagram below and set up the cable-loss compensation switch for each unit accordingly.

As the WV-CU300 does not have a cable loss compensation switch, the distance "D" should be as short as possible.

### <Example-1>



- (1) Setting up of WJ-MP404

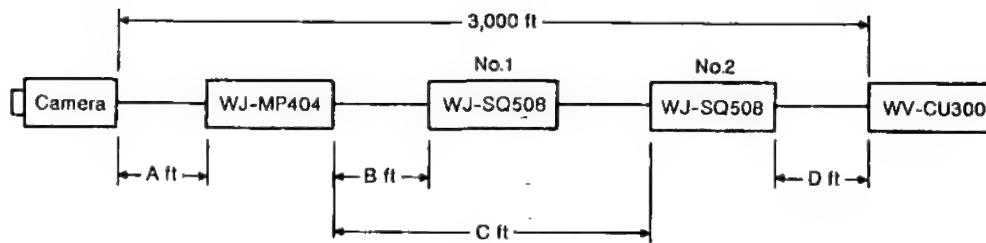
Position of the switch of WJ-MP404	
$0 \leq A < 1300 \rightarrow$	S
$1300 \leq A < 2300 \rightarrow$	M
$2300 \leq A < 3000 \rightarrow$	L

- (2) Setting up of WJ-SQ508

Position of the switch of WJ-MP404	Position of the switch of WJ-SQ508
S: $0 \leq A + B < 1300 \rightarrow$	S
S: $1300 \leq A + B < 2300 \rightarrow$	M
S: $2300 \leq A + B < 3000 \rightarrow$	L
M: $1300 \leq A + B < 2300 \rightarrow$	S
M: $2300 \leq A + B < 3000 \rightarrow$	M
L: $\rightarrow$	S



## <Example-2>



- (1) Setting up of WJ-MP404  
Same as Example-1, item-(1).
- (2) Setting up of No.1 WJ-SQ508  
Same as Example-1, item-(2).
- (3) Setting up of No.2 WJ-SQ508  
Replace "A + B" of the table in Example-1, item-(2) with the "A + C + D" of the diagram above.

- 1) WJ-MP404 : A ft
- 2) No.1 WJ-SQ508 : B ft
- 3) No.2 WJ-SQ508 : C ft
- 4)  $A + C + D \leq 3,000\text{ft}$

### Note:

The distance D should not be long due to no cable-loss compensation switch on WV-CU300.

## CABLE CONNECTION

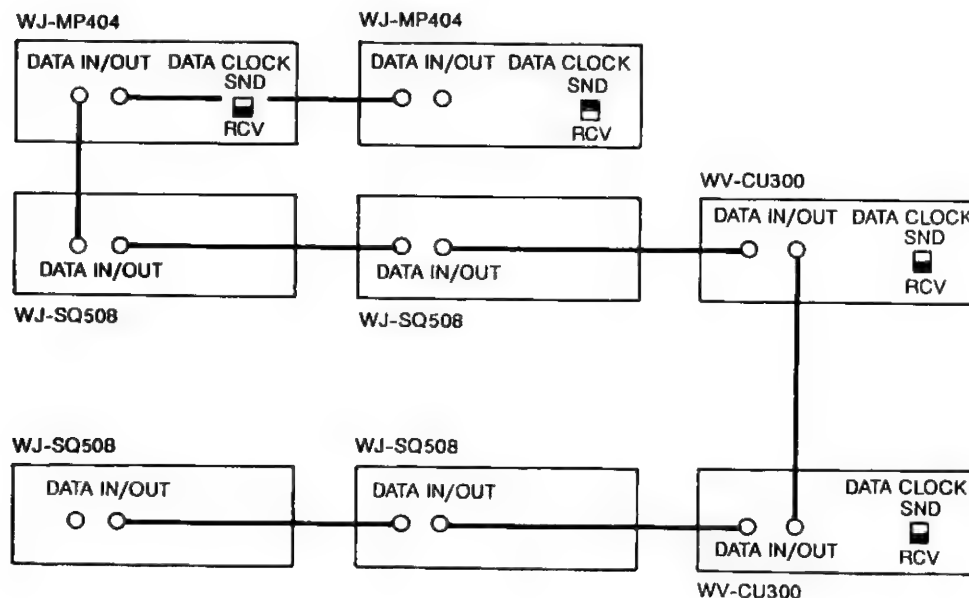
### A. DATA BUS CONNECTION

#### 1. Cable Connections

- 1-1 The two BNC connectors for DATA IN/OUT on the WJ-MP404, WJ-SQ508 and the WV-CU300 are internally connected and are identical.
- 1-2 The Data Bus Connection is looped through all units with the first and last units being automatically terminated with  $75\Omega$  and all other units being Hi-Z loop through.

#### 2. Data Clock Switch Selection

- 2-1 Set the Data Clock Switch on the first unit connected to the Data Bus to the "SND" so that this unit is the Data Clock supplier. Set the Data Clock Switch on all other unit to the "RCV" position.
- 2-2 Data are transmitted and received to and from each unit connected to the Data Bus, in addition to the Data Clock, through the single coaxial cables.



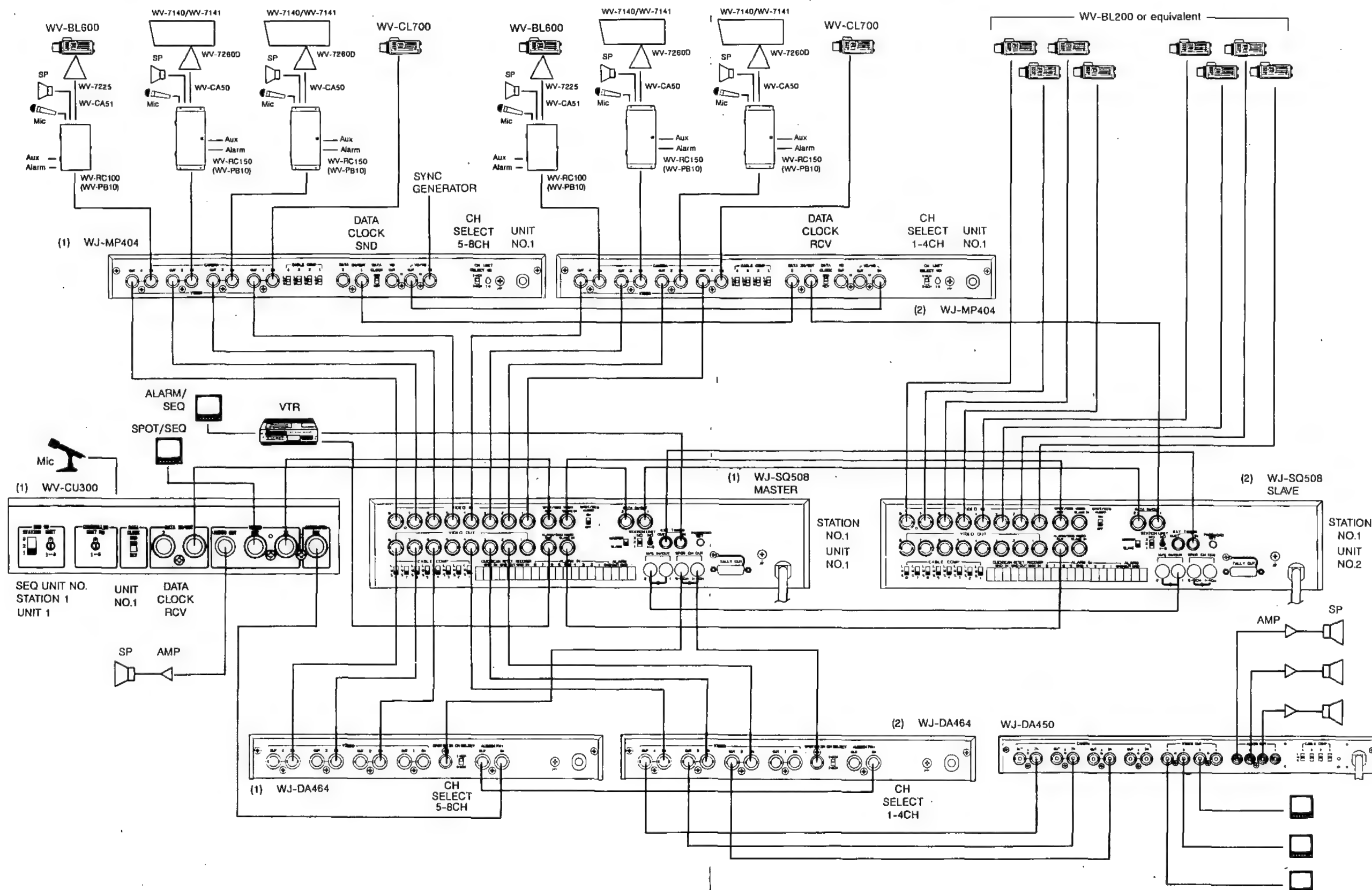
## B. WIRING DIAGRAM

This diagram shows one of examples for the actual wiring and the selection of the Unit Numbers and switchers. Refer to "HOW TO SET UP THE UNIT NUMBERS" on page 12 for setting up the Unit Numbers of WJ-SQ508 and WV-CU300. Also refer to the operating instructions of each component for the selection of the switches.

In this example, 16 cameras, 2 Multiplex Units WJ-MP404, 2 Sequential Switchers WJ-SQ508, 2 Audio Mix & Selectors WJ-DA464, 1 System Controller WV-CU300, 1 AV Demodulator WJ-DA450 and other system components are used.

- Each WJ-MP404 is receiving 3 audio signals and these signals are multiplexed on the video signals then transmitted to WV-CU300 and WJ-DA464 through WJ-SQ508.
- Mic signal from WV-CU300 is transmitted to the camera site through WJ-DA464 and WJ-SQ508.
- Two Sequential Switchers WJ-SQ508 are composed of a master/slave configuration.

- The ALARM/SEQ output signal of the master WJ-SQ508 will be supplied to the VTR.
- The SPOT/SEQ output picture will be supplied from WV-CU300 to the monitor.
- To monitor the sounds of the camera sites, connect WJ-DA450 to WJ-DA464 as shown in the diagram.



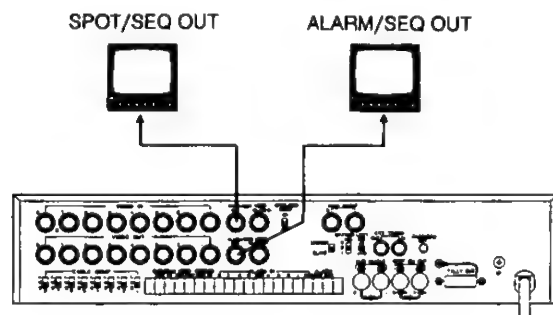
## SYSTEM APPLICATIONS

### Caution:

1. Make sure that the cable length between the camera site and the end of System Controller WV-CU300 should be less than 3,000 ft with RG-59U, BELDEN 9259 or equivalent cable.
2. The cable length between the Sequential Switcher WJ-SQ508 and the System Controller WV-CU300 should not be long due to no cable-loss compensator on the System Controller.

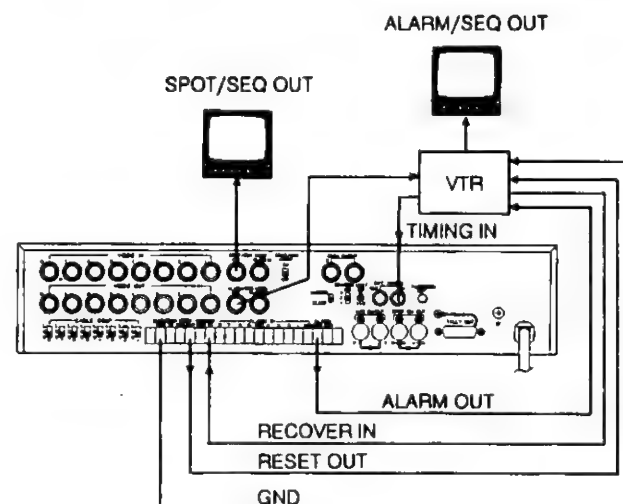
### A. Basic Application

#### 1. Single WJ-SQ508 without VTR



- (a) Sequence time: Set by the Dwell Time Control (5) or Program Switch (20).
- (b) Controls:
  - (1) Master/Slave Switch (27) to Master position.
  - (2) Station Number Switch (29) & Unit Number Switch (30) are not specified.
  - (3) Spot/Sequence Audio Switch (26) to OFF position.
- (c) Normal sequence mode:
  - (1) SPOT/SEQ OUT → switched by Dwell Time Control (5).
  - (2) ALARM/SEQ OUT → switched by Dwell Time Control (5).
- (d) Program sequence mode:
  - (1) SPOT/SEQ OUT → switched by Program Switch (20).
  - (2) ALARM/SEQ OUT → switched by Program Switch (20).
- (e) Spot mode:
  - (1) SPOT/SEQ OUT → spot mode
  - (2) ALARM/SEQ OUT → sequential mode.
- (f) Single alarm mode:
  - (1) SPOT/SEQ OUT → continues previous operation.
  - (2) ALARM/SEQ OUT → fixed to the alarmed picture.
- (g) Multiple alarm mode:
  - (1) SPOT/SEQ OUT → continues previous operation.
  - (2) ALARM/SEQ OUT → starts sequencing the alarmed pictures out once every second.
- (h) Quick Scan alarm mode:
  - (1) SPOT/SEQ OUT → continues previous operation.
  - (2) ALARM/SEQ OUT → starts sequencing all pictures in QS-TIME.

#### 2. Single WJ-SQ508 with VTR

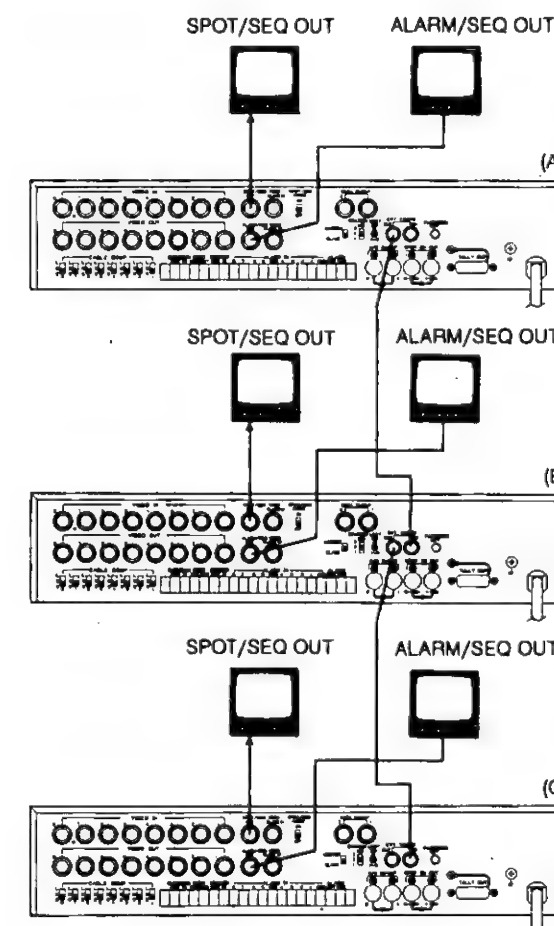


- (a) Sequence time: Set by timing pulse from VTR
- (b) Controls:
  - (1) Master/Slave Switch (27) to Master position.
  - (2) Station Number Switch (29) & Unit Number Switch (30) are not specified.
  - (3) Dwell Time Control (5) to EXT position.
  - (4) Spot/Sequence Audio Switch (26) to OFF position.
- (c) Sequence stops when the power of VTR is turned off.
- (d) Normal sequence mode:
  - (1) SPOT/SEQ OUT → switched by timing pulse of VTR.
  - (2) ALARM/SEQ OUT → switched by timing pulse of VTR.
- (e) Program sequence mode:
  - (1) SPOT/SEQ OUT → switched by timing pulse of VTR through Program Switch (20).
  - (2) ALARM/SEQ OUT → switched by timing pulse of VTR through Program Switch (20).
- (f) Spot mode:
  - (1) SPOT/SEQ OUT → spot mode
  - (2) ALARM/SEQ OUT → sequential mode.
- (g) Single alarm mode:
  - (1) SPOT/SEQ OUT
    - i. starts sequencing out once every second when the unit was in SEQ mode.
    - ii. stays spot mode when the unit was in SPOT mode.
  - (2) ALARM/SEQ OUT → fixed to the alarmed picture.
- (h) Multiple alarm mode:
  - (1) SPOT/SEQ OUT
    - i. starts sequencing out once every second when the unit was in SEQ mode.
    - ii. stays spot mode when the unit was in SPOT mode.
  - (2) ALARM/SEQ OUT → starts sequencing the alarmed pictures out once every second.

#### (i) Quick Scan alarm mode:

- (1) SPOT/SEQ OUT
  - i. starts sequencing out once every second when the unit was in SEQ mode.
  - ii. stays spot mode when the unit was in SPOT mode.
- (2) ALARM/SEQ OUT → start sequencing out all pictures in QS-TIME.

#### 3. Parallel connection without VTR



- (a) Sequence time: (B) (C) WJ-SQ508 are synchronized with (A) WJ-SQ508.
- (b) Controls:
  - (1) Master/Slave Switch (27) to Master position for all WJ-SQ508.
  - (2) Station Number Switch (29) & Unit Number Switch (30) are not specified.
  - (3) Dwell Time Control (5) of (A) WJ-SQ508 to proper position.
  - (4) Dwell Time Control (5) of (B) (C) to EXT position.
  - (5) Spot/Sequence Audio Switch (26) to OFF position.
- (c) Sequencing of (C) WJ-SQ508 stops when the power of (B) WJ-SQ508 is turned off due to no timing pulse from (B) WJ-SQ508.

#### (d) Normal sequence mode:

- (1) SPOT/SEQ OUT → All WJ-SQ508 are switched by the Dwell Time Control (5) of (A) WJ-SQ508.
- (2) ALARM/SEQ OUT → All WJ-SQ508 are switched by Dwell Time Control (5) of (A) WJ-SQ508.

#### (e) Program sequence mode:

- (1) SPOT/SEQ OUT → All WJ-SQ508 are switched by Dwell Time Control (5) of (A) WJ-SQ508 with programmed sequence order.
- (2) ALARM/SEQ OUT → All WJ-SQ508 are switched by Dwell Time Control (5) of (A) WJ-SQ508 with programmed sequence order.

#### (f) Spot mode:

- (1) SPOT/SEQ OUT → WJ-SQ508 in spot mode shows the spot picture. Other WJ-SQ508 are synchronized to the timing pulse of (A) WJ-SQ508.
- (2) ALARM/SEQ OUT → WJ-SQ508 in spot mode and the other WJ-SQ508 are synchronized to the timing pulse of (A) WJ-SQ508.

#### (g) Single alarm mode:

- (1) SPOT/SEQ OUT - When the unit (B) is alarmed,
  - i. the unit (B) and (C) starts sequence in every one second.
  - ii. the unit (A) continues previous operation.
- (2) ALARM/SEQ OUT → WJ-SQ508 in alarmed mode fixed to the alarmed picture. Other WJ-SQ508 continue the sequence mode.

#### (h) Multiple alarm mode:

- (1) SPOT/SEQ OUT - When the unit (B) is alarmed,
  - i. the unit (B) and (C) starts sequence in every one second.
  - ii. the unit (A) continues previous operation.
- (2) ALARM/SEQ OUT → Alarmed channels of alarmed WJ-SQ508 start sequencing out once every second.

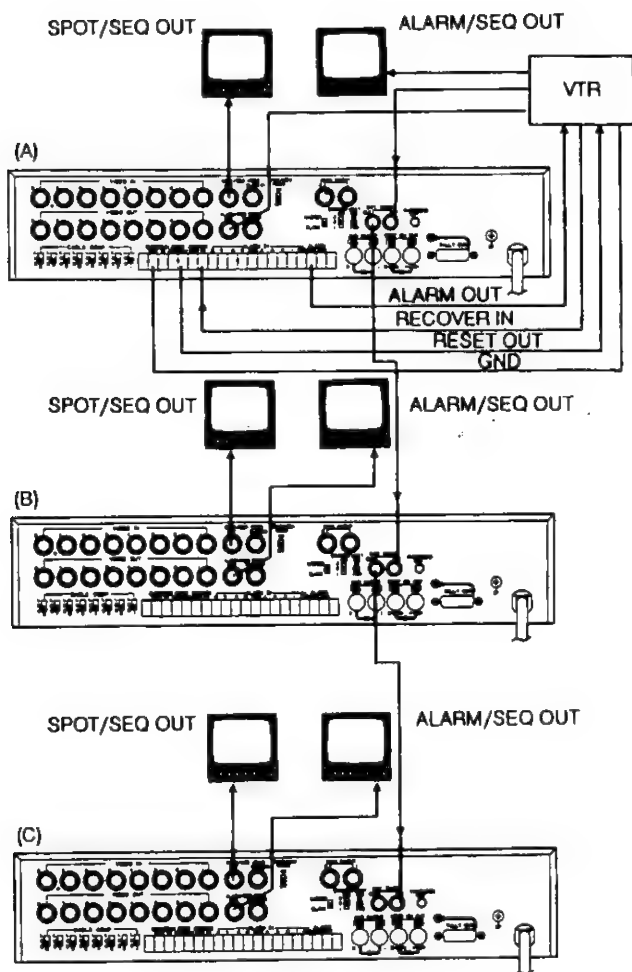
#### (i) Quick Scan alarm mode:

- (1) SPOT/SEQ OUT - When the unit (B) is alarmed,
  - i. the unit (B) and (C) starts sequence out second.
  - ii. the unit (A) continues previous a operation.
- (2) ALARM/SEQ OUT → The alarmed WJ-SQ508 starts to sequence out all pictures in QS-TIME.

### Note:

The picture on each video monitor will not be the same camera picture.

#### 4. Parallel connection with VTR



(2) ALARM/SEQ OUT → WJ-SQ508 in spot mode and the other WJ-SQ508 are switched by the timing pulse from the VTR.

#### (g) Single alarm mode:

- (1) SPOT/SEQ OUT - When the unit (B) is alarmed,
  - i. the unit (B) and (C) starts sequence in every one second.
  - ii. the unit (A) continues a previous operation.
- (2) ALARM/SEQ OUT → WJ-SQ508 in alarm mode fixed to the alarmed picture. Other WJ-SQ508 continue the sequence mode synchronized with timing pulse from the VTR.

#### (h) Multiple alarm mode:

- (1) SPOT/SEQ OUT - When the unit (B) is alarmed,
  - i. the unit (B) and (C) starts sequence in every one second.
  - ii. the unit (A) continues a previous operation.
- (2) ALARM/SEQ OUT → Alarmed channels of alarmed WJ-SQ508 start sequencing out once every second. Other WJ-SQ508 continue the sequence mode synchronized with timing pulse from the VTR.

#### (i) Quick Scan alarm mode:

- (1) SPOT/SEQ OUT - When the unit (B) is alarmed,
  - i. the unit (B) and (C) starts sequence in every one second.
  - ii. the unit (A) continues a previous operation.
- (2) ALARM/SEQ OUT → starts sequencing out all pictures in the alarmed WJ-SQ508 in QS-TIME. Other WJ-SQ508 continue the sequence mode synchronized with timing pulse from the VTR.

#### Note:

The Time Lapse VTR can be used with each Sequential Switcher.

(a) Sequence time: Set by timing pulse from VTR for all WJ-SQ508.

#### (b) Controls:

- (1) Master/Slave Switch (27) set to Master position for all WJ-SQ508.
- (2) Station Number Switch (29) & Unit Number Switch (30) are not specified.
- (3) Dwell Time Control (5) of all WJ-SQ508 set to EXT position.

(c) The Sequence mode of the system stops when the power of the VTR is turned off due to no timing pulse.

#### (d) Normal sequence mode:

- (1) SPOT/SEQ OUT → All WJ-SQ508 are switched by the timing pulse from VTR.
- (2) ALARM/SEQ OUT → All WJ-SQ508 are switched by the timing pulse from VTR.

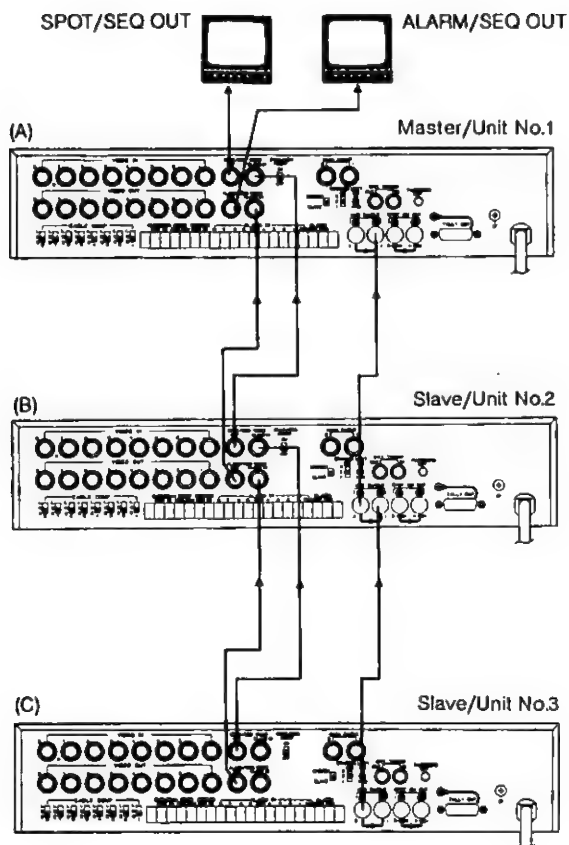
#### (e) Program sequence mode:

- (1) SPOT/SEQ OUT → All WJ-SQ508 are switched by the timing pulse from VTR with self programmed menu.

#### (f) Spot mode:

- (1) SPOT/SEQ OUT → WJ-SQ508 in spot mode shows the spot picture. Other WJ-SQ508 are synchronized to the timing pulse from the VTR.

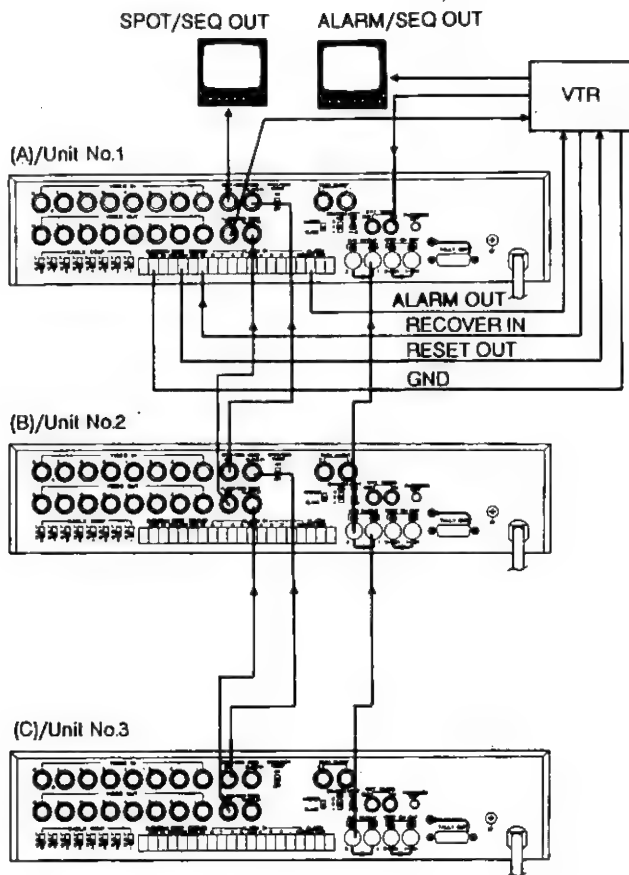
## 5. Master/Slave operation without VTR



- (g) Single alarm mode:
  - (1) SPOT/SEQ OUT → continues a previous operation.
  - (2) ALARM/SEQ OUT → Alarmed WJ-SQ508 fixes to alarmed picture.
- (h) Multiple alarm mode:
  - (1) SPOT/SEQ OUT → continues a previous operation.
  - (2) ALARM/SEQ OUT → Alarmed channels start sequencing out once every second.
- (i) Quick Scan alarm mode:
  - (1) SPOT/SEQ OUT → continues a previous operation.
  - (2) ALARM/SEQ OUT → Alarmed WJ-SQ508 starts sequencing out all pictures in QS-TIME.

- (a) Sequence time: Depends on Dwell Time Control (5) or programmed sequence time.
- (b) Controls:
  - (1) Master/Slave Switch (27) to Master position for (A) WJ-SQ508, to Slave position for (B) (C) WJ-SQ508.
  - (2) Station Number Switch (29) should be same.
  - (3) Unit Number Switch (30) to 1 for (A) WJ-SQ508, 2 for (B) WJ-SQ508 and 3 for (C) WJ-SQ508.
  - (4) Dwell Time Control (5) set to desired time for (A) WJ-SQ508. Not specified for (B) (C) WJ-SQ508.
- (c) System stops when the power of (A) WJ-SQ508 is turned off. When the power of (B) WJ-SQ508 is turned off, no picture is supplied from (C) WJ-SQ508.
- (d) Normal sequence mode:
  - (1) SPOT/SEQ OUT → All cameras are switched by Dwell Time Control (5) of (A) WJ-SQ508.
  - (2) ALARM/SEQ OUT → All cameras are switched by Dwell Time Control (5) of (A) WJ-SQ508.
- (e) Program sequence mode:
  - (1) SPOT/SEQ OUT → Program sequence is performed for each, WJ-SQ508 with it's own program.
  - (2) ALARM/SEQ OUT → Program sequence is performed for each, WJ-SQ508 with it's own program.
- (f) Spot mode:
  - (1) SPOT/SEQ OUT → Spot picture from any WJ-SQ508 is obtained.
  - (2) ALARM/SEQ OUT → Continues the sequence mode.

## 6. Master/Slave operation with VTR



### (g) Single alarm mode:

#### (1) SPOT/SEQ OUT

- starts sequencing out once every second when the unit was in SEQ mode.
- stays spot mode when the unit was in SPOT mode.

#### (3) ALARM/SEQ OUT → Obtains the alarmed picture.

### (h) Multiple alarm mode:

#### (1) SPOT/SEQ OUT

- starts sequencing out once every second when the unit was in SEQ mode.
- stays spot mode when the unit was in SPOT mode.

#### (2) ALARM/SEQ OUT → Alarmed channels start sequencing out once every one second.

### (i) Quick Scan alarm mode:

#### (1) SPOT/SEQ OUT

- starts sequencing out once every second when the unit was in SEQ mode.
- stays spot mode when the unit was in SPOT mode.

#### (2) ALARM/SEQ OUT → starts sequencing for all pictures in QS- TIME.

(a) Sequence time: Set by timing pulse from VTR for all WJ-SQ508. The Dwell Time Control (5) of (A) Sequential Switcher should be in the EXT position.

### (b) Controls:

- Master/Slave Switch (27) to Master position for (A) WJ-SQ508, to Slave position for (B), (C) WJ-SQ508
- Station Number Switch (29) should be same.
- Unit Number Switch (30) set to 1 for (A) WJ-SQ508, 2 for (B) WJ-SQ508 and 3 for (C) WJ-SQ508.
- Dwell Time Control (5) to proper level for (A) WJ-SQ508. Not specified for (B) (C) WJ-SQ508.

(c) System stops when the power of VTR or (A) WJ-SQ508 is turned off.

### (d) Normal sequence mode:

- SPOT/SEQ OUT → All cameras are switched by timing pulse from the VTR.
- ALARM/SEQ OUT → All cameras are switched by timing pulse from the VTR.

### (e) Program sequence mode:

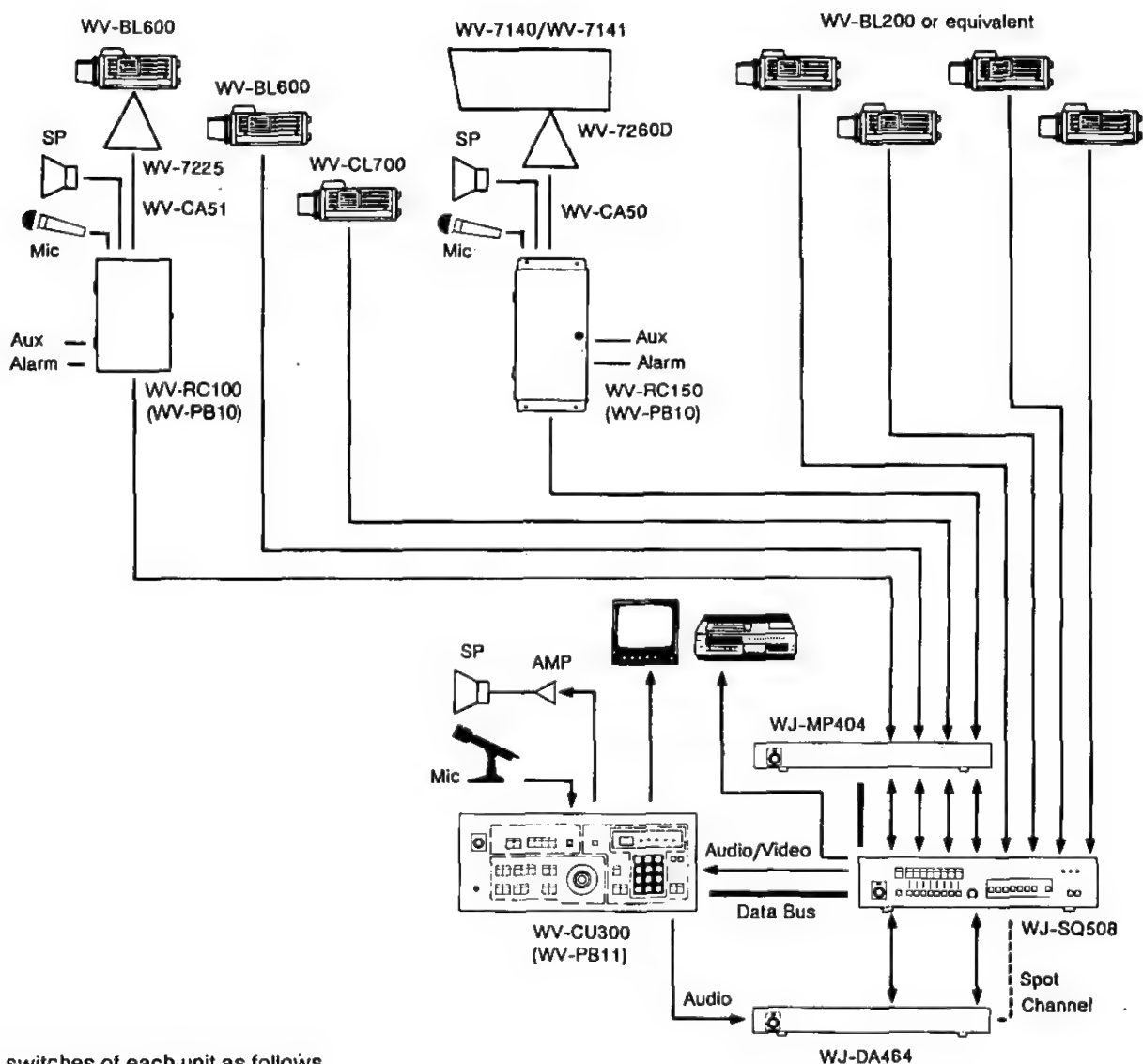
- SPOT/SEQ OUT → Program sequence is performed for each WJ-SQ508 triggered by timing pulse from VTR.
- ALARM/SEQ OUT → Program sequence is performed for each WJ-SQ508 triggered by timing pulse from VTR.

### (f) Spot mode:

- SPOT/SEQ OUT → Spot picture is obtained.
- ALARM/SEQ OUT → Continues the sequence mode.

### B. Standard Configuration With Audio

- This system offers video switching control (by WJ-SQ508), camera function control plus control of optional accessories (by WV-CU300 and WJ-MP404) and two-way audio communication between camera site and operator.
- Eight cameras are used in this system. Four cameras have their functions, and optional accessories as well, controlled through WJ-MP404.
- It is recommended to install WJ-DA464 in between WV-CU300 and WJ-SQ508.



**Set the switches of each unit as follows.**

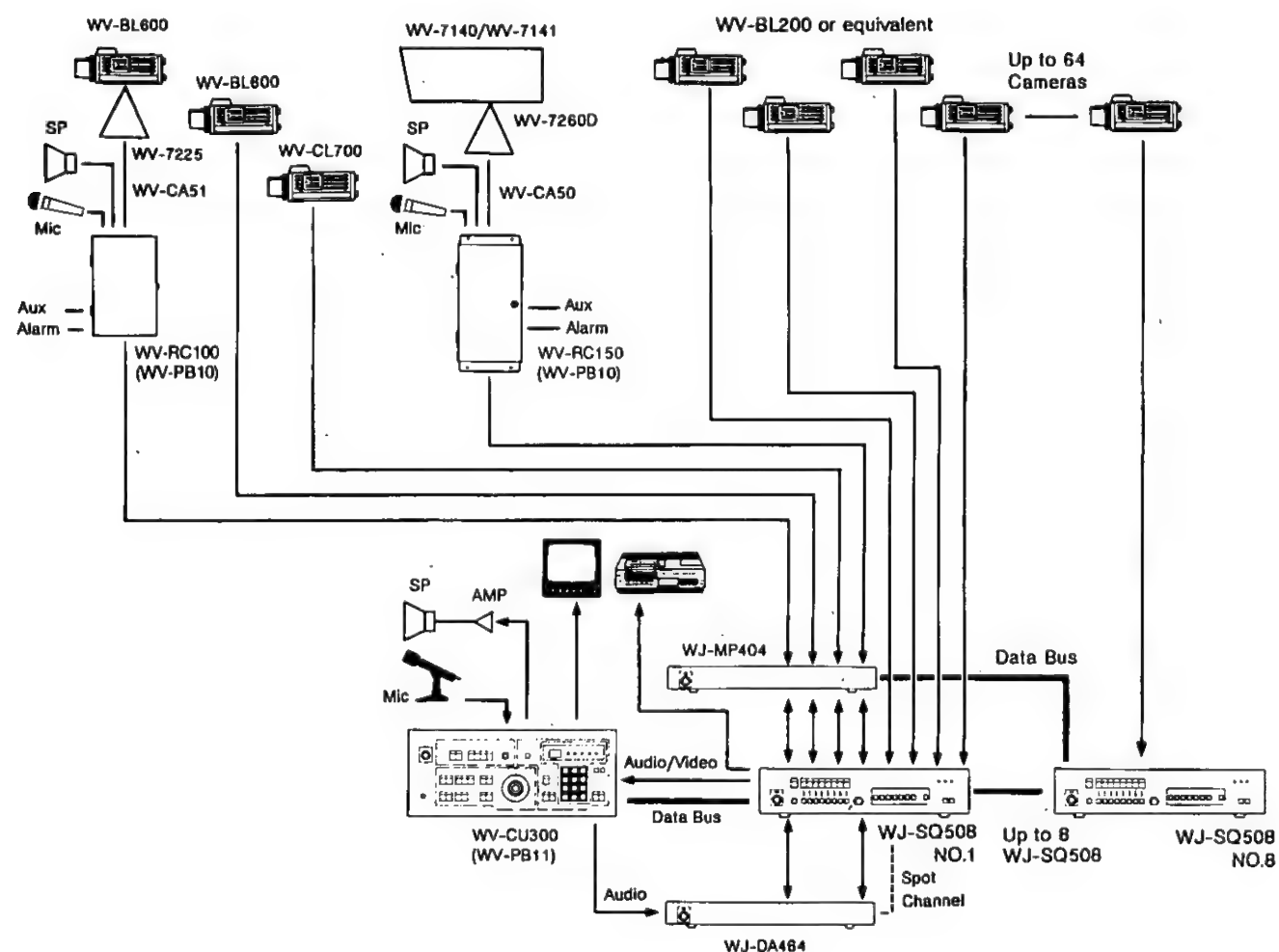
WV-CU300:	SEQ NO:	
	STATION .....	1
	UNIT .....	1
	CONTROLLER UNIT NO ....	1
	DATA CLOCK .....	RCV
WJ-MP404:	DATA CLOCK .....	SNL
	CH SELECT .....	1-4CH
	UNIT NO .....	1
WJ-SQ508:	MASTER/SLAVE ....	MASTER
	STATION NO .....	1
	UNIT NO .....	1



## Master/Slave Configuration

- Up to sixty-four cameras are available in this system. The camera functions of four cameras and optional accessories are controlled by the WV-CU300 through the WJ-MP404 in this example.

- The master WJ-SQ508 sends/receives the control data to/from the slave WJ-SQ508.

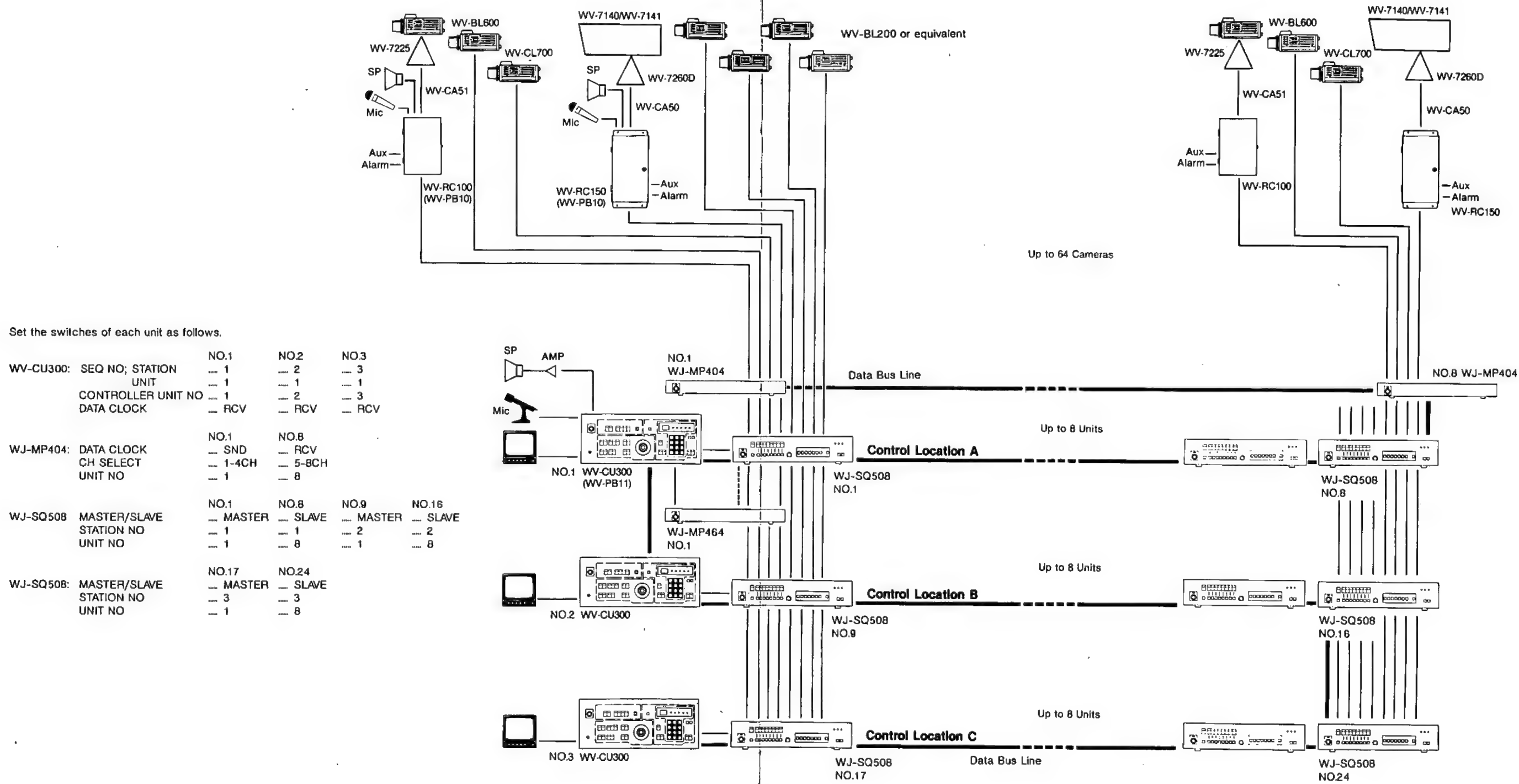


WV-CU300:	SEQ NO:	
	STATION .....	1
	UNIT .....	1
	CONTROLLER UNIT NO ....	1
	DATA CLOCK .....	RCV
WJ-MP404:	DATA CLOCK .....	SNL
	CH SELECT .....	1-4CH
	UNIT NO .....	1
WJ-SQ508:	MASTER/SLAVE ....	MASTER
(No.1)	STATION NO .....	1
	UNIT NO .....	1
WJ-SQ508:	MASTER/SLAVE .....	SLAVE
(No.8)	STATION NO .....	1
	UNIT NO .....	8

D. Advanced Application-2

Master-Slave Multicontrol Location via Loop-Through Connection.

- Three control locations (by WV-CU300) and three master-slave configurations (by WJ-SQ508) are included in this system.
- Up to sixty-four cameras are available in this system. The functions of eight cameras and the optional accessories are controlled by WV-CU300 through two WJ-MP404.
- Any WV-CU300 System Controller is able to access any one of the sixty-four cameras through the master/slave configurations of WJ-SQ508.
- The Audio & Mix & Selector WJ-DA464 is required where the camera sites include audio capability.

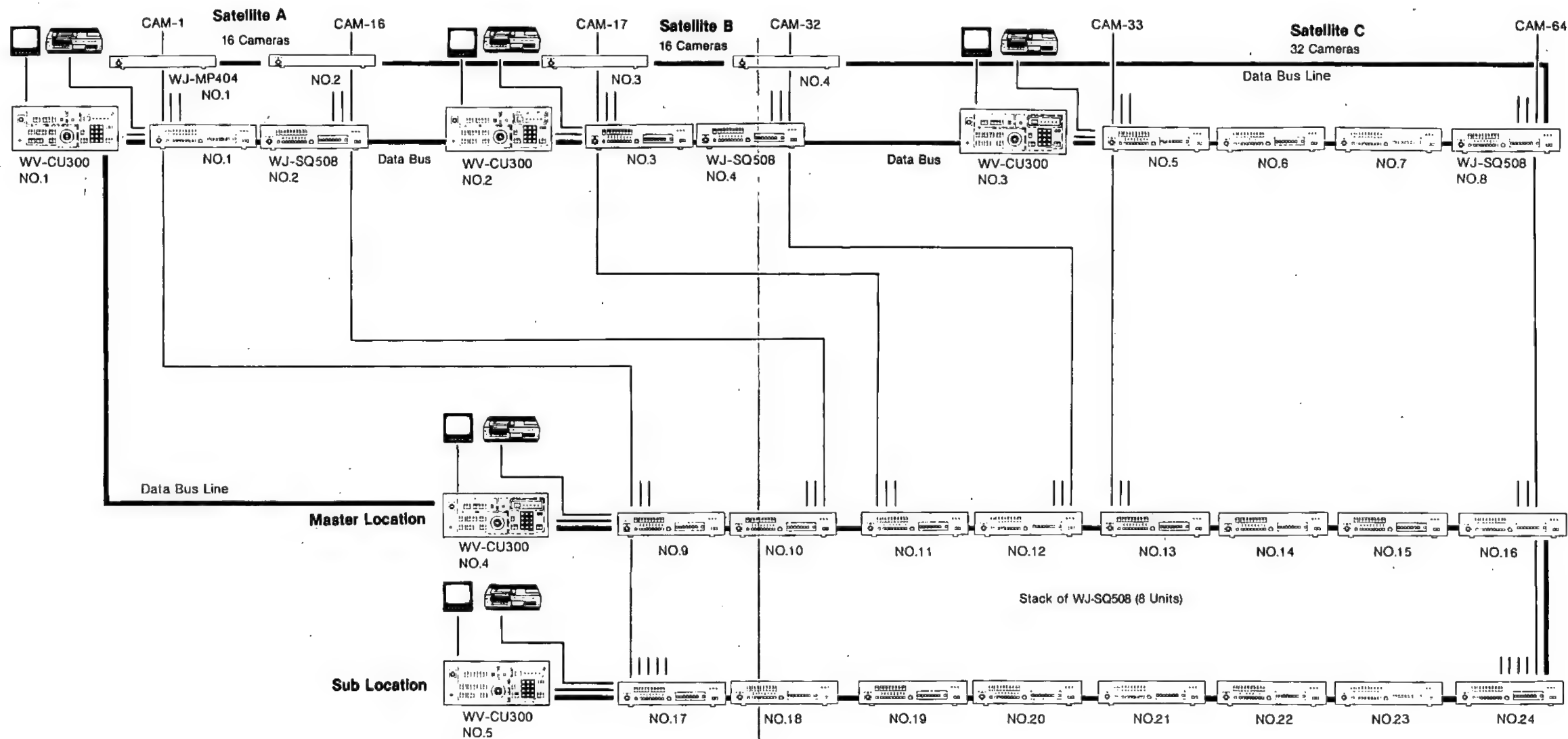


E. Advanced Application-3 (Bay System)

This application provides for surveillance operations with an operation center (Master Location & Sub Location) and several subsidiary control locations (Satellite A-C).

- Up to sixty-four cameras are available in this system. The functions of cameras and optional accessories are controlled by WV-CU300 though WJ-MP404 in Satellite A.

- Each Satellite has it's own master-slave configuration and is located in a different place.
- The Master Location will have the advantage of setting up controls of the Sequential Switchers.



Set the switches of each unit as follows.

	NO.1	NO.2	NO.3	NO.4	NO.5
WV-CU300: SEQ NO; STATION	1	1	1	2	3
UNIT	1	3	5	1	1
CONTROLLER UNIT NO	1	2	3	4	5
DATA CLOCK	RCV	RCV	RCV	RCV	RCV
WJ-MP404: DATA CLOCK	NO.1	NO.2	NO.3	NO.4	
CH SELECT	SND	RCV	RCV	RCV	
UNIT NO	1-4CH	5-8CH	1-4CH	5-8CH	
	1	1	2	2	
WJ-SQ508 MASTER/SLAVE	NO.1	NO.2	NO.3	NO.4	NO.5
STATION NO	MASTER	SLAVE	MASTER	SLAVE	MASTER
UNIT NO	1	1	1	1	1
	1	2	3	4	5

WJ-SQ508: MASTER/SLAVE	NO.6	NO.7	NO.8	NO.9	NO.10
STATION NO	SLAVE	SLAVE	SLAVE	MASTER	SLAVE
UNIT NO	1	1	1	2	2
	6	7	8	1	2
WJ-SQ508: MASTER/SLAVE	NO.11	NO.12	NO.13	NO.14	NO.15
STATION NO	SLAVE	SLAVE	SLAVE	SLAVE	SLAVE
UNIT NO	2	2	2	2	2
	3	4	5	6	7
WJ-SQ508 MASTER/SLAVE	NO.16	NO.17	NO.18	NO.19	NO.20
STATION NO	SLAVE	MASTER	SLAVE	SLAVE	SLAVE
UNIT NO	2	3	3	3	3
	8	1	2	3	4
WJ-SQ508: MASTER/SLAVE	NO.21	NO.22	NO.23	NO.24	
STATION NO	SLAVE	SLAVE	SLAVE	SLAVE	
UNIT NO	3	3	3	3	
	5	6	7	8	

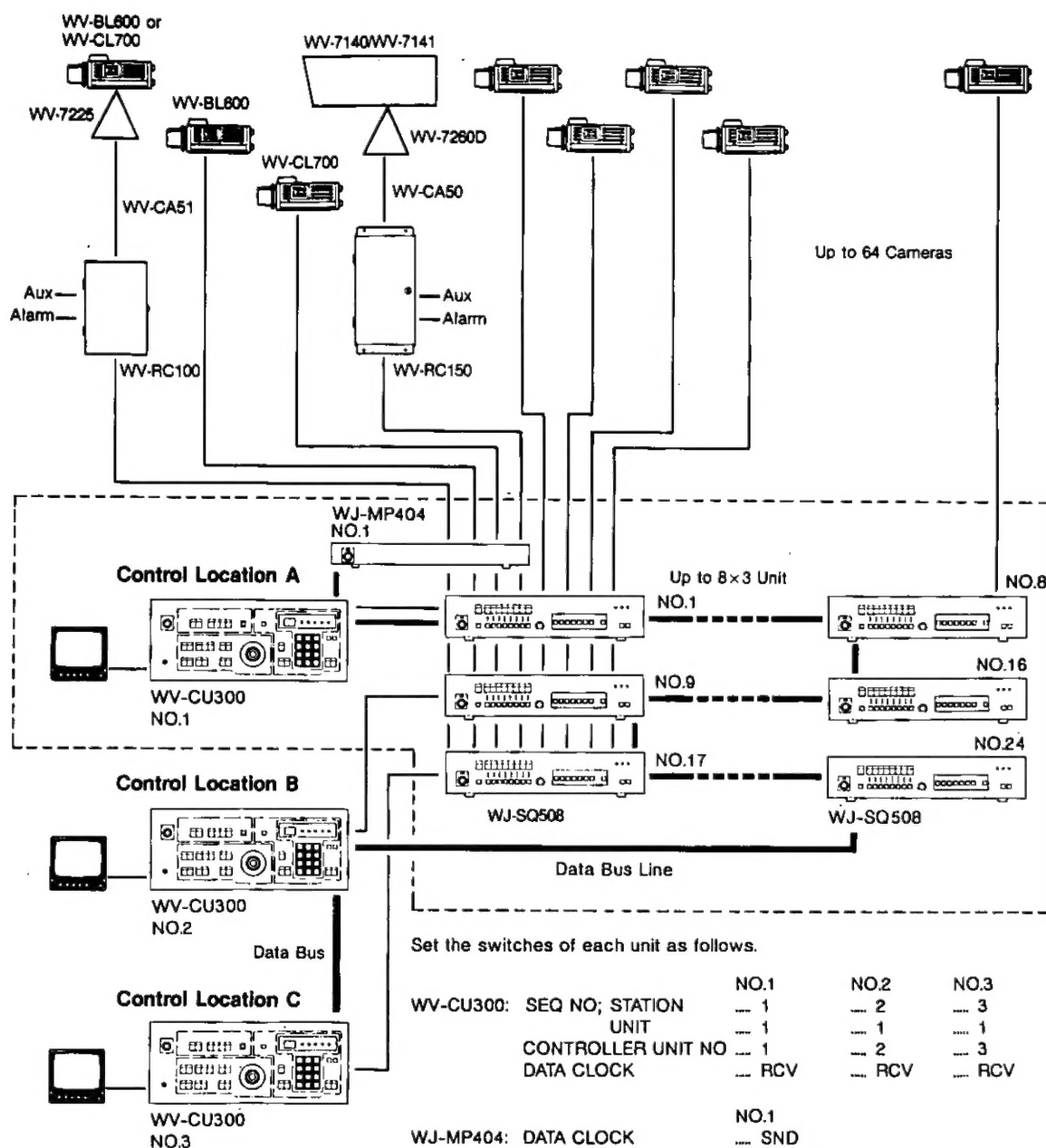
## F. Advanced Application-4

### Master-Slave Multicontrol Location Minimizing Cable Usage.

This application is similar to Advanced Application-2. However, with this application it is possible to save on wiring costs.

- Up to sixty-four cameras are available in this system. The functions of four cameras and the optional accessories are controlled by WV-CU300 through WJ-MP404.

- All Sequential Switchers WJ-SQ508 are located in the room of Control Location A.
- WV-CU300 from the Control Location B or the Control Location C is able to access any of WJ-SQ508. However, only Control Location A has the advantage of setting up controls of Sequential Switchers.



Set the switches of each unit as follows.

WV-CU300:	SEQ NO; STATION	NO.1 ... 1	NO.2 ... 2	NO.3 ... 3
	UNIT	... 1	... 1	... 1
	CONTROLLER UNIT NO	... 1	... 2	... 3
	DATA CLOCK	... RCV	... RCV	... RCV

WJ-MP404:	DATA CLOCK	NO.1 ... SND
	CH SELECT	... 1-4CH
	UNIT NO	... 1

WJ-SQ508	MASTER/SLAVE	NO.1 ... MASTER	NO.8 ... SLAVE	NO.9 ... MASTER	NO.16 ... SLAVE
	STATION NO	... 1	... 1	... 2	... 2
	UNIT NO	... 1	... 8	... 1	... 8

WJ-SQ508:	MASTER/SLAVE	NO.17 ... MASTER	NO.24 ... SLAVE
	STATION NO	... 3	... 3
	UNIT NO	... 1	... 8

# SPECIFICATIONS

<b>Power supply:</b>	120V AC, 60Hz
<b>Power consumption:</b>	Approx. 15W
<b>Input</b>	
Video In 1-8:	1 Vp-p/75 ohms (with FM signal when audio is multiplexed)
Spot/Sequence Slave In:	1 Vp-p/75 ohms (same as above)
Alarm/Sequence Slave In:	1 Vp-p/75 ohms
External Timing In:	Pulses (5Vp-p)
Alarm In 1-8:	Open collector input
Quick Scan Alarm In:	Open collector input
Recover In:	Open collector input
<b>Output</b>	
Video Out 1-8:	Loop-through output of Camera Inputs 1-8 with 75 ohms auto termination.
Spot/Sequence Out:	1 Vp-p/75 ohms (Spot/Sequence Video Out or output of Spot/Sequence Slave In)
Alarm/Sequence Out:	1 Vp-p/75 ohms (Alarm/Sequence Video Out or output of Alarm/Sequence Slave In)
External Timing Out:	Open collector output
Alarm Out:	Open collector output
Reset Out:	Pulse (5V, 450 msec)
Tally Out:	Open collector output
Spot Channel Out 1-2:	Multiple signals
<b>In/Out</b>	
Data In/Out:	Sync on data multiplexed, 1 Vp-p/75 ohms
Master/Slave In/out:	Multiplexed signals
<b>Control Switches and VR</b>	Power (On/Off), Sequence start(Normal/Program), Spot(1-8), Bypass (On/Off), Title (On/Off), Dwell Time Set VR (1-30 sec/Ext)
	Program/End SW, Cursor ( + - ◀ ▶ ), Enter SW, Audio On/Off SW, Master/Slave SW, Password Set, Cable comp.
	SW 1-8 (S/M/L), Station NO SW, Unit NO SW, Reset SW, Buzzer SW, Program SW
<b>Ambient Operating Temperature:</b>	14°F - 122°F (−10°C - +50°C)
<b>Ambient Operating Humidity:</b>	Less than 95%
<b>Dimensions (W×H×D):</b>	16-9/16"×3-7/16"×13-3/4" (420×88×350mm)
<b>Weight:</b>	12.3 lbs. (5.6kg)

Weight and dimensions shown are approximate.  
Specifications are subject to change without notice.

## STANDARD ACCESSORIES

Rack Mount Angle .....	1 set
Screws for Rack Mount Angle (M4) .....	4 pcs.
Master/Slave Cable .....	1 pc.

## MAJOR OPTIONAL ACCESSORIES

Multiplex Unit .....	WJ-MP404
System Controller .....	WV-CU300
Audio Mix & Selector .....	WJ-DA464
AV Demodulator .....	WJ-DA450
Camera .....	WV-BL200 series, WV-BL600 series WV-CL300 series, WV-CL700 series



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